Land Use Technical Report

Multnomah County | Earthquake Ready Burnside Bridge Project

Portland, OR

January 29, 2021

Earthquake Ready Burnside Bridge
Land Use Technical Report

Prepared for

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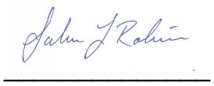
CERTIFICATION

The technical material and data contained in this document were prepared under the supervision and direction of the undersigned, as a professional planner.



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Prepared by Sabrina Robinson (Planner)

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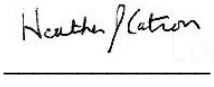
Checked by Jennifer Hughes (Senior Environmental Planner)



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Approved by Heather Catron (Consultant Project Manager)

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Acronyms, Initialisms, and Abbreviations

ADA	Americans with Disabilities Act
AMR	American Medical Response
API	Area of Potential Impact
CSZ	Cascadia Subduction Zone
EIS	environmental impact statement
EQRB	Earthquake Ready Burnside Bridge
RLIS	Regional Land Information System
TSP	transportation system plan
CC	Central City Plan District
CX	Central Commercial
d	Design Overlay
e	River Environmental Overlay
EX	Central Employment
g*	River General* Overlay
IG1	General Industrial 1
OAR	Oregon Administrative Rule
OS	Open Space
SO	Skidmore/Old Town Historic District
TCE	temporary construction easement
UPRR	Union Pacific Railroad

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Executive Summary

Local comprehensive plans identify the need for a safe transportation route that supports a growing region. Land use impacts would occur from any of the Build Alternatives, however, the benefits from a resilient Burnside Bridge outweigh the anticipated impacts.

- The No-Build Alternative does not have any direct adverse land use impacts, but it requires more ongoing maintenance and does not further the local comprehensive planning goals. Long term, this Alternative would have the greatest damage to surrounding land uses and severely affect recovery should a Cascadia Subduction Zone (CSZ) earthquake occur.
- The Retrofit Alternative preserves a few of the historic elements of the bridge but requires multiple land use acquisitions and construction-related easements. This Alternative would permanently remove the Burnside Skatepark.
- The Short- and Long-span Alternatives would require similar displacements and easements, and should a CSZ earthquake occur, they provide more clearance between the bridge and adjacent buildings. The Long-span Alternative requires the least amount of associated groundwork.
- The Couch Extension would require the largest number of displacements and easements. This Alternative would also have the most prominent impact to surrounding land uses due to the westbound approach introducing an elevated bridge where there are currently at-grade roads or other right-of-way features.
- The temporary bridge would provide mitigation to traffic-related impacts but would increase the duration of the Project and create an additional land use impact.

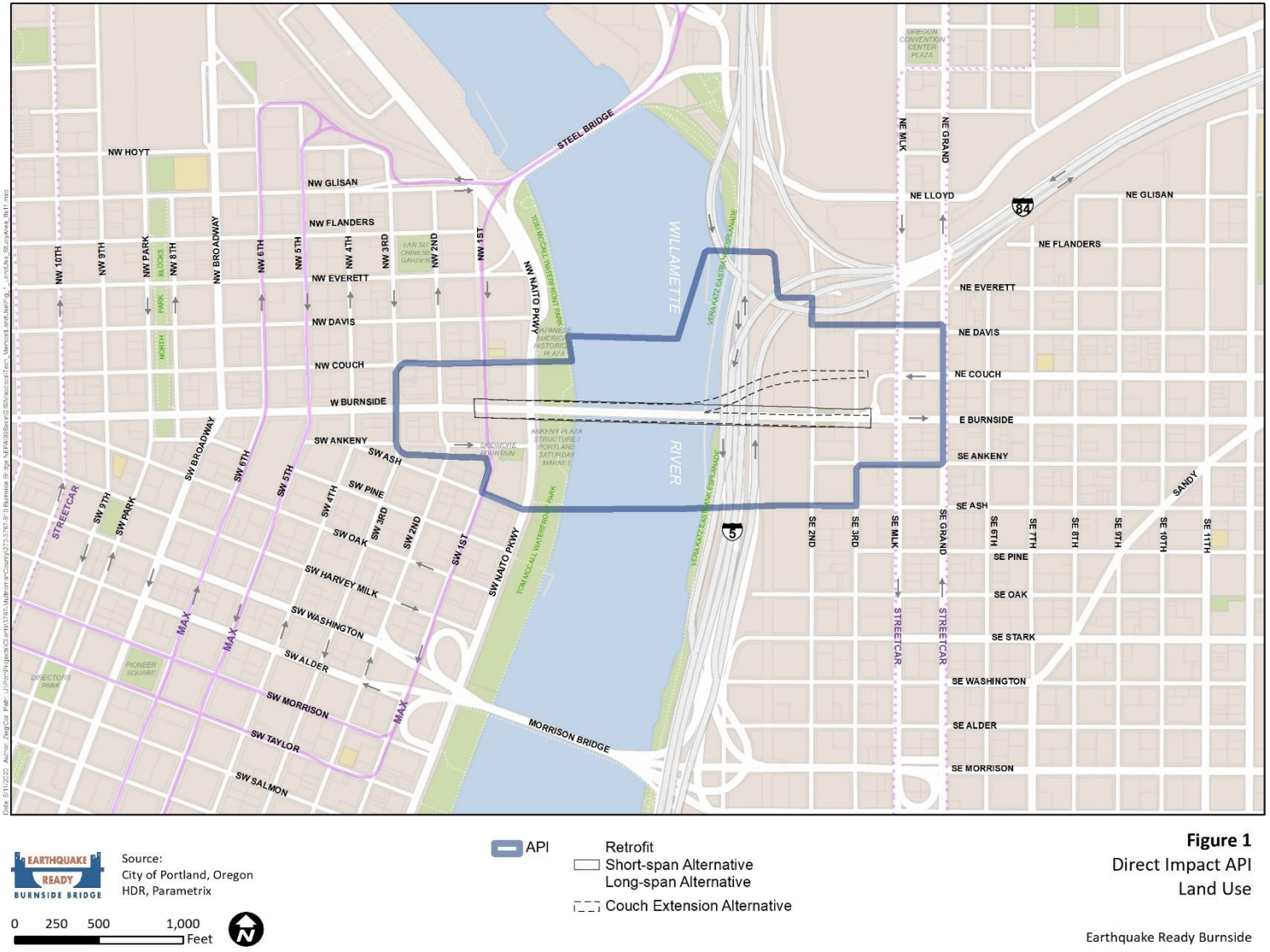
1 Introduction

As a part of the preparation of the Environmental Impact Statement (EIS) for the Earthquake Ready Burnside Bridge (EQRB) Project, this technical report has been prepared to identify and evaluate land use impacts (changes to land use resulting from the Project and further defined in Section 6 of this report) within the Project's Area of Potential Impact (API).

1.1 Project Location

The Project Area is located within the Central City of Portland. The Burnside Bridge crosses the Willamette River connecting the west and east sides of the city. The Project Area encompasses a one-block radius around the existing Burnside Bridge and W/E Burnside Street, from NW/SW 3rd Avenue on the west side of the river and NE/SE Grand Avenue on the east side. Several neighborhoods surround the area including Old Town/Chinatown, Downtown, Kerns, and Buckman. Figure 1 shows the Project Area.

Figure 1. Direct Impact API



Source: City of Portland, HDR, Parametrix

1.2 Project Purpose

The primary purpose of the Project is to build a seismically resilient Burnside Street lifeline crossing over the Willamette River that would remain fully operational and accessible for vehicles and other modes of transportation following a major CSZ earthquake. The Burnside Bridge would provide a reliable crossing for emergency response, evacuation, and economic recovery after an earthquake. Additionally, the bridge would provide a long-term safe crossing with low maintenance needs.

2 Project Alternatives

The Project Alternatives are described in detail with text and graphics in the EQRB Description of Alternatives Report. That report describes the Alternatives' current design, as well as operations and construction assumptions.

Briefly, the Draft EIS evaluates the No-Build Alternative and four Build Alternatives. Among the Build Alternatives there is an Enhanced Seismic Retrofit Alternative that would replace certain elements of the existing bridge and retrofit other elements, and three Replacement Alternatives that would completely remove and replace the existing bridge. In addition, the Draft EIS considers options for managing traffic during construction. Nomenclature for the Alternatives/Options are:

- No-Build Alternative
- Build Alternatives
    - Enhanced Seismic Retrofit (Retrofit Alternative)
    - Replacement Alternative with Short-span Approach (Short-span Alternative)
    - Replacement Alternative with Long-span Approach (Long-span Alternative)
    - Replacement Alternative with Couch Extension (Couch Extension Alternative)
- Construction Traffic Management Options
    - Temporary Detour Bridge Option (Temporary Bridge) includes three modal options:
        - Temporary Bridge: All modes
        - Temporary Bridge: Transit, Bicycles and Pedestrians only
        - Temporary Bridge: Bicycles and Pedestrians only
    - Without Temporary Detour Bridge Option (No Temporary Bridge)

3 Definitions

The following terminology is used when discussing geographic areas:

- **Project Area** – The area within which improvements associated with the Project Alternatives would occur and the area needed to construct these improvements. The

Project Area includes the area needed to construct all permanent infrastructure, including adjacent parcels where modifications are required for associated work such as utility realignments or upgrades. For the EQRB Project, the Project Area includes approximately a one-block radius around the existing Burnside Bridge and W/E Burnside Street, from NW/SW 3rd Avenue on the west side of the river and NE/SE Grand Avenue on the east side.

- **Area of Potential Impact (API)** – This is the geographic boundary within which physical impacts to the environment could occur with the Project Alternatives. The API is resource-specific and differs depending on the environmental topic being addressed. For all topics, the API encompasses the Project Area, and for some topics the geographic extent of the API is the same as that for the Project Area; for other topics (such as for transportation effects) the API is substantially larger to account for impacts that could occur outside of the Project Area. The API for land use is defined in Section 5.1.
- **Project vicinity** – The environs surrounding the Project Area. The Project vicinity does not have a distinct geographic boundary but is used in general discussion to denote the larger area, inclusive of the Old Town/Chinatown, Downtown, Kerns, and Buckman neighborhoods.

4 Legal Regulations and Standards

4.1 Laws, Plans, Policies, and Regulations

The following is a list of federal, state, and local laws, regulations, plans, and policies that may guide or inform the assessment of land use.

4.1.1 State of Oregon

- Oregon Administrative Rules (OAR). 1973. OAR 660-015 Statewide Planning Goals and Guidelines. Salem, Oregon. 19 statewide planning goals and guidelines through the Land Conservation and Development Department with particular emphasis on the following:
  - Oregon Transportation Planning Rule. This division implements Statewide Planning Goal 12, Transportation, to provide and encourage a safe, convenient, and economic transportation system.
  - Oregon Statewide Planning Goal 5. This planning goal protects and plans for Oregon Natural Resources, Scenic and Historic Areas, and Open Spaces.
  - Oregon Statewide Planning Goal 15. The Willamette River Greenway is focused on the Willamette River and applies to cities and counties along the river.
- OAR 660-023-0200 Historic Resources. Provides procedures and requirements for a National Register Resource.

4.1.2 Regional

- Metro Regional Transportation Plan, including supporting plans such as, but not limited to, the Regional Active Transportation Plan and the Metro Climate Smart Strategy. This plan provides guidance for investments in all forms of travel and the movement of goods and freight by identifying current and future transportation needs and what investments are needed. The Metro Climate Smart Strategy guides how the region moves forward to integrate reducing greenhouse gas emissions with ongoing efforts to create a desirable future for the region.
- Metro Region 2040 Concept Plan. This is a 50-year plan for growth in the Portland metropolitan area.
- Metro Urban Growth Management Functional Plan (Section 3.07 of the Metro Code). This plan provides tools to meet the goals of the 2040 Growth Concept.
- Metro Regional Framework Plan. This plan incorporates regional polices and requirements to unite Metro's adopted land use planning polices and requirements.

4.1.3 City of Portland

- 2035 Comprehensive Plan – A long-range plan to help the City prepare for and manage population and employment growth, as well as coordinate major public improvements.
    - Central City 2035, Central City Plan District, neighborhood plans (e.g., Downtown Community Residential, Downtown), historic district designation (e.g., New Chinatown/Japantown and Skidmore Fountain/Old Town), The River Plan, and any other relevant subarea plans – These are plans and policies for the downtown and central areas of Portland to ensure they remain vibrant parts of the Portland metropolitan region. District plans implement the Central City 2035 Plan with regulations addressing the individual districts that compose the Central City. Neighborhood plans address the individual neighborhood or community.

      The Central City 2035 Plan was adopted by City Council in July 2018 to replace the 1988 Central City Plan. Its adoption in 2018 included an update to the 1987 Willamette Greenway Plan for the Central Reach of the river.

      The Central City 2035 Plan was appealed and was remanded by the Oregon Court of Appeals on March 16, 2020. The plan was readopted on July 8, 2020, and it went into effect on August 10, 2020.
- Portland Zoning Code, Title 33 – Provides development standards and regulations that determine and guide project planning and use and implements the goals and polices of the 2035 Comprehensive Plan. Title 33 includes base zones, overlay zones, and plan districts all with requirements and guidance pertaining to lands adjacent to the Burnside Bridge and the Willamette River.
    - At the time of writing this technical report, PCC 33.440 (Greenway Overlay) applied to the Project Area, while PCC 33.475 (River Overlay) which went into effect on July 9, 2018, did not apply until the Central City 2035 Plan was readopted. The Central City 2035 plan was readopted on July 8, 2020, and went

back into effect on August 10, 2020. Thus, both the Greenway Overlay and River Overlay are considered here.

- Additional river-related development requirements include the Portland City Code 33.840 Greenway Goal Exception which requires an exception to Statewide Planning Goal 15.
- All applicable zones are identified in Section 4.2, Design Standards, below.
- Land use reviews include a Design Review, Type IV Demolition Review, and Historic Resource Review (PCC 33.846.060, Type III or Type Ix).
- Other urban design, streetscape, or land use plans that are adopted during the preparation of the Draft EIS.

4.2 Design Standards

The Project Area is within several City of Portland Zoning Code base zones, overlay zones, and districts described in detail further in this report. These regulations include development standards that apply to location, bulk, height, materials, landscaping, accessibility, and other standards. The standards are generally intended for building and landscaping development and multimodal accessibility; however, the standards will be reviewed in detail when the bridge design is reviewed for applicable building and planning permits. The Central City Fundamental Guidelines provide guidelines to preserve the heritage and character of the area. Specific sections of the code that could apply include the following (additional standards may also apply):

- General Industrial Base Zone
- Central Commercial Base Zone
- Central Employment Base Zone
- Open Space Base Zone
- Design Overlay Zone and Design Review (Portland Zoning Code 33.825.065)
- Willamette Greenway Design Guidelines
- Historic Resources Overlay and Historic Resource Review
- Central City Plan District
- Tom McCall Waterfront Park Landscape Design Guidelines
- Central City Fundamental Design Guidelines (2001)
- Major Public Trails Requirements
- Greenway Overlay (until the River Overlay Zone goes into effect once the Central City 2035 Plan is readopted – Central City 2035 Plan was readopted on July 8, 2020, and went into effect August 10, 2020) and River Review
- Type IV Demolition Review
- The Skidmore/Old Town Historic District Design Guidelines (adopted 2016) provide approval criteria that must be met as part of the historic resource review. The design

guidelines include the importance of continuous street walls that help define the characteristic block and lot patterned streetscape of the Skidmore/Old Town District. The proposed ramp/stair access will be designed to meet the standards identified in the Historic District Design Guidelines including Guideline A2 for street walls and any other applicable design guidelines.

- Guideline A2: The Street Wall – Maintain and strengthen the street wall in new construction, additions, and improvements to open portions of sites.
  - Guideline A2 may be accomplished by: Creating landscaping, walls, fences and arcades along the street edge of parking lots and other outdoor spaces. The installation of this cast iron arcade north of the New Market Theater creates a buffering wall that continues the street façade without interruption.
  - Guideline A2 may be accomplished by: Providing substantial entry gateways to alleys and courtyards. This proposed gateway to a courtyard in the Block 8L development includes masonry and metal work, contributing to the sense of street wall while providing access from the street.

5 Affected Environment

5.1 Area of Potential Impact

There are two APIs for the land use analyses: one is on a regional scale and the other is closely aligned to the Project Area. The API for compatibility with regional and local land use plans is the Portland metropolitan region, as defined by the jurisdictional boundaries of Metro. The API for direct long- and short-term impacts is bounded by the parcels of land immediately adjacent to the Project Area. Figure 1 shows the API for direct long- and short-term impacts.

5.2 Resource Identification and Evaluation Methods

5.2.1 Published Sources and Databases

The primary source of data on existing and planned land uses in the corridor is the Regional Land Information System (RLIS), which is Metro's compilation of geographic data for the Portland metropolitan region. The following RLIS data is used to determine and describe land use existing conditions for the technical report:

- Existing land use
  - Vacant land
  - Single-family residential land
  - Multi-family residential land
  - Office, retail, and other commercial land
  - Public use land, including designated parks and open spaces
  - Industrial land
  - Institutional land

- Comprehensive plan designation
- Zoning designation, including City of Portland overlay zones, historic designations, and plan districts
- Assessed value of land and improvements by parcel

The RLIS generally only contains regulatory information that is adopted and/or in effect; other sources may be used if there are adopted policies not yet in effect, and thus not yet reflected in the RLIS.

5.2.2 Field Visits and Surveys

A pedestrian field visit was conducted on June 24, 2019, to view and confirm the existing land uses within the API.

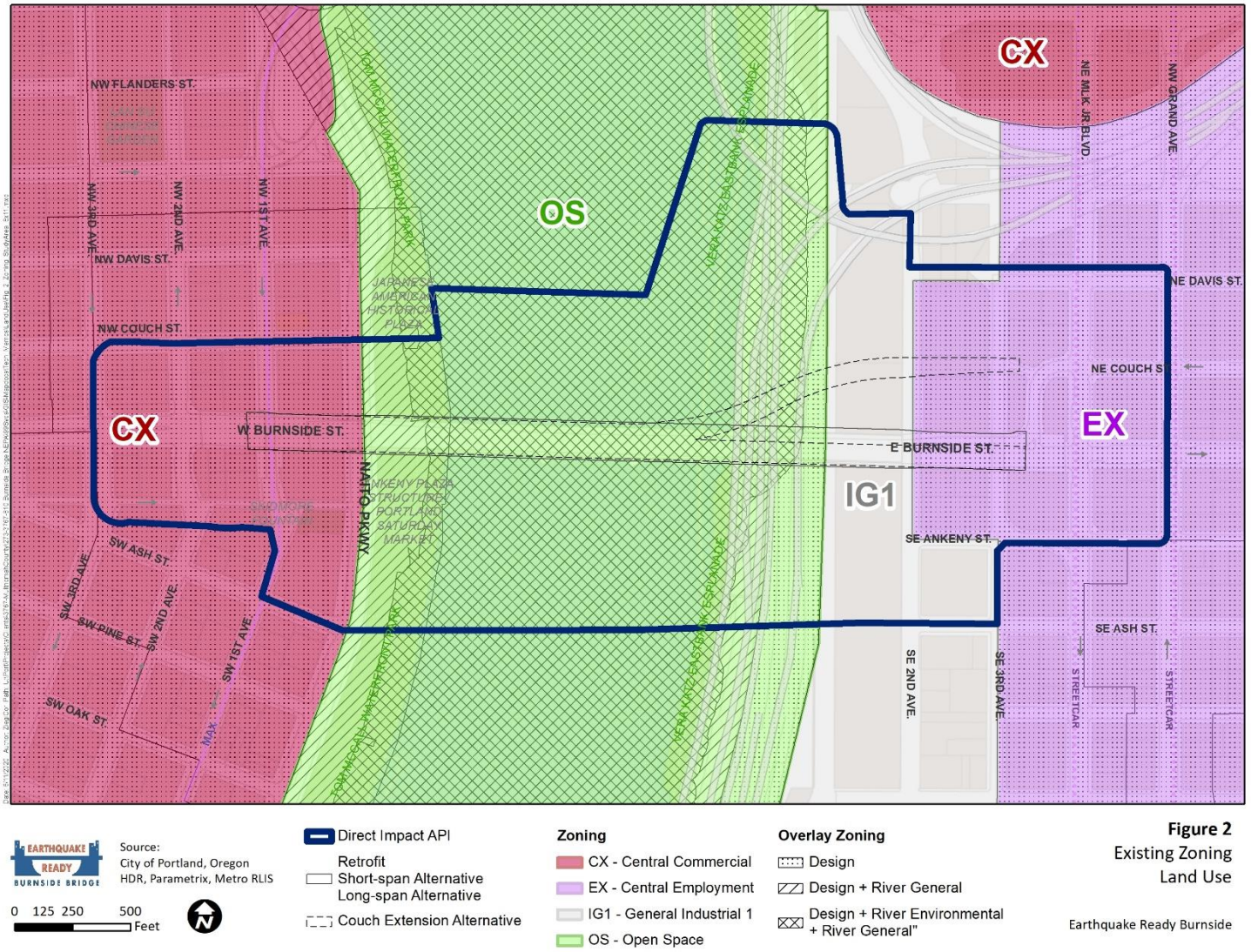
5.3 Existing Conditions

5.3.1 Zoning

The City of Portland uses base zones to describe what uses are allowed, limited, or prohibited on the property and provide general development standards. Overlay zones apply in addition to base zone regulations and address specific subjects that may apply in a variety of areas of the City. Plan districts apply in addition to base zones and overlay zones and contain standards applicable to a specific area of the City. If a conflict arises between the plan district regulations and the base zone, overlay zone, or other zoning code regulations, the plan district regulations apply.

The west side of the Burnside Bridge within the API is zoned Central Commercial (CX) with a design overlay (d) zone. The area is part of the Central City Plan District (CC) and is located within the Skidmore/Old Town Historic District (SO). Around the east end of the bridge, zoning consists of General Industrial 1 (IG1) and Central Employment (EX) with a design overlay (d) zone and is also part of the Central City Plan District (CC). The Burnside Bridge spanning the Willamette River is zoned Open Space (OS) with design (d), river environmental (e), and river general (g*) overlay zones (see Figure 2).

Figure 2. Existing Zoning



Source: City of Portland, HDR, Parametrix, Metro RLIS

The following provides descriptions for zones included within the API.

Base Zones

Central Commercial zoning provides commercial and mixed-use development opportunities in Portland's most urban areas including the Central City Plan District. Development in areas zoned Central Commercial is meant to be very intense with high building coverage, and large, densely spaced buildings. The main mode of transportation is intended to be pedestrian-oriented with a safe and attractive surrounding streetscape.

The Central Employment zone allows mixed uses, is intended for areas in the center of the city, and contains primarily industrial development. This zone provides a central location for industrial and commercial uses and allows new development similar in character to existing development. Residential is allowed but is not intended to be the predominant use.

General Industrial 1 provides areas where most industrial uses may locate and allows new development which is similar in character to existing development. General Industrial 1 areas have smaller lots and a grid block pattern. The area is mostly developed with buildings normally close to the street and high building coverages. This zone is associated with Portland's older industrial areas.

Areas zoned Open Space preserve and enhance public and private open, natural, and improved park and recreational areas as outlined in the comprehensive plan. Open Space zoning provides outdoor recreation opportunities, contrasts to the built environment, preserves scenic qualities, protects sensitive environmental areas, enhances the value of trees, preserves the capacity and water quality of the stormwater drainage system, and provides pedestrian and bicycle transportation connections.

Areas zoned Open Space preserve and enhance public and private open, natural, and improved park and recreational areas as outlined in the comprehensive plan. Open Space zoning provides outdoor recreation opportunities, contrasts to the built environment, preserves scenic qualities, protects sensitive environmental areas, enhances the value of trees, preserves the capacity and water quality of the stormwater drainage system, and provides pedestrian and bicycle transportation connections.

Overlay Zones

The design overlay zone promotes the conservation, enhancement, and continued vitality of areas in the city with scenic, architectural, or cultural value. This overlay zone promotes quality high-density development near transit facilities through the creation of design districts which require design guidelines, design review, and compliance.

The river environmental overlay zone protects, conserves, and enhances natural resource functions and values while allowing environmentally sensitive development. This zoning helps to limit impacts from development and vegetation maintenance on natural resources. Mitigation is required for unavoidable impacts and aims to have no net loss of natural resource features or functions over time.

The river general overlay zone allows for uses and development that are consistent with the base zoning and allows for public use and enjoyment of the riverfront.

Historic resource overlay zones protect historic resources in the region and preserve significant parts of the region's heritage. The regulations for these zones implement Portland's Comprehensive Plan policies addressing historic preservation in order to beautify the city, promote economic health, and preserve and enhance the value of historic properties.

Plan Districts

The Central City Plan District implements the Central City 2035 Plan which was adopted by City Council in July 2018 to replace the 1988 Central City Plan. The Central City 2035 Plan addresses the unique role the Central City area plays as the region's leading center for jobs, health and human services, tourism, entertainment, and urban living. The regulations for this district encourage a high-density urban area with a mix of commercial, residential, industrial, and institutional uses. Central City development is meant to be transit-supportive with bicycle- and pedestrian-friendly streets and a healthy urban river.

The Central City 2035 Plan was appealed and was remanded by the Oregon Court of Appeals on March 16, 2020. The plan was readopted on July 8, 2020, and it went into effect on August 10, 2020.

5.3.2 Existing Land Use

The API consists of a variety of land uses with commercial and industrial accounting for the majority of land use on both the east and west sides of the bridge. Multi-family residential, open space and parks (along the riverfront), social services, institutional (land uses which serve a community's educational, religious, governmental, social, cultural, or major healthcare service needs), parking, right-of-way, and vacant land make up the remaining usage. Social services and historic buildings/sites are prevalent along W Burnside Street on the west end of the bridge. Institutional uses are also present on the west side of Burnside Bridge. Governor Tom McCall Waterfront Park occupies the riverfront area on the west side of the Willamette River. It provides passive recreation areas and open space, and hosts many events throughout the year including the Portland Saturday Market. Businesses and multi-family residences lie along E Burnside Street on the east end of the Burnside Bridge.

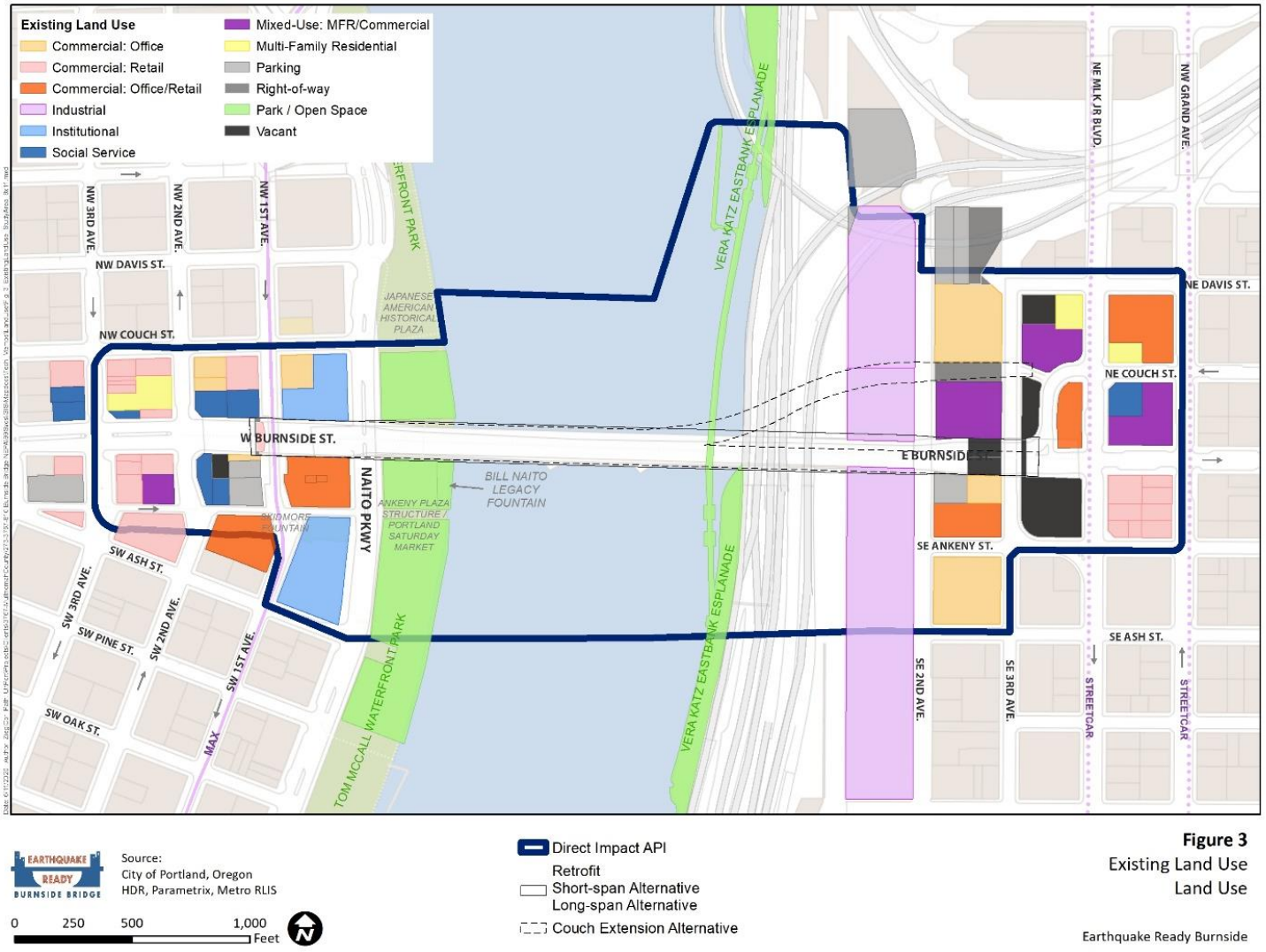
Table 1 lists existing land uses by acreage and percentages within the API. Commercial uses combined are the highest amount of land use at 28.5 percent, with 21.1 percent industrial use followed by 18.8 percent parks and open space. Figure 3 maps existing land use within the API.

Table 1. Existing Land Use in the API

Land Use Type	East (acres)	West (acres)	Grand Total (acres)	East (%)	West (%)	Total (%)
Commercial: Office	3.1	0.5	3.6	15.8	4.1	11.5
Commercial: Office/Retail	1.5	1.2	2.7	7.5	10.5	8.6
Commercial: Retail	0.8	1.9	2.7	4.0	15.9	8.4
Industrial	6.7	0.0	6.7	33.5	0.0	21.1
Institutional	0.0	1.7	1.7	0.0	14.7	5.5
Mixed-Use: Multi-Family Residential/Commercial	1.8	0.2	2.0	9.1	1.6	6.3
Multi-Family Residential	0.3	0.3	0.7	1.6	2.9	2.1
Park/Open Space	1.6	4.4	6.0	8.0	37.2	18.8
Parking	1.7	0.6	2.3	8.7	5.1	7.4
Right-of-way	0.7	0.0	0.7	3.5	0.2	2.3
Social Service	0.2	0.8	1.1	1.1	7.1	3.3
Vacant	1.4	0.1	1.5	7.1	0.7	4.7
Total	**19.9**	**11.7**	**31.6**	**100.0**	**100.0**	**100.0**

Source: Metro RLIS Taxlots Dataset and Parametrix

Figure 3. Existing Land Use



Source: City of Portland, HDR, Parametrix, Metro RLIS

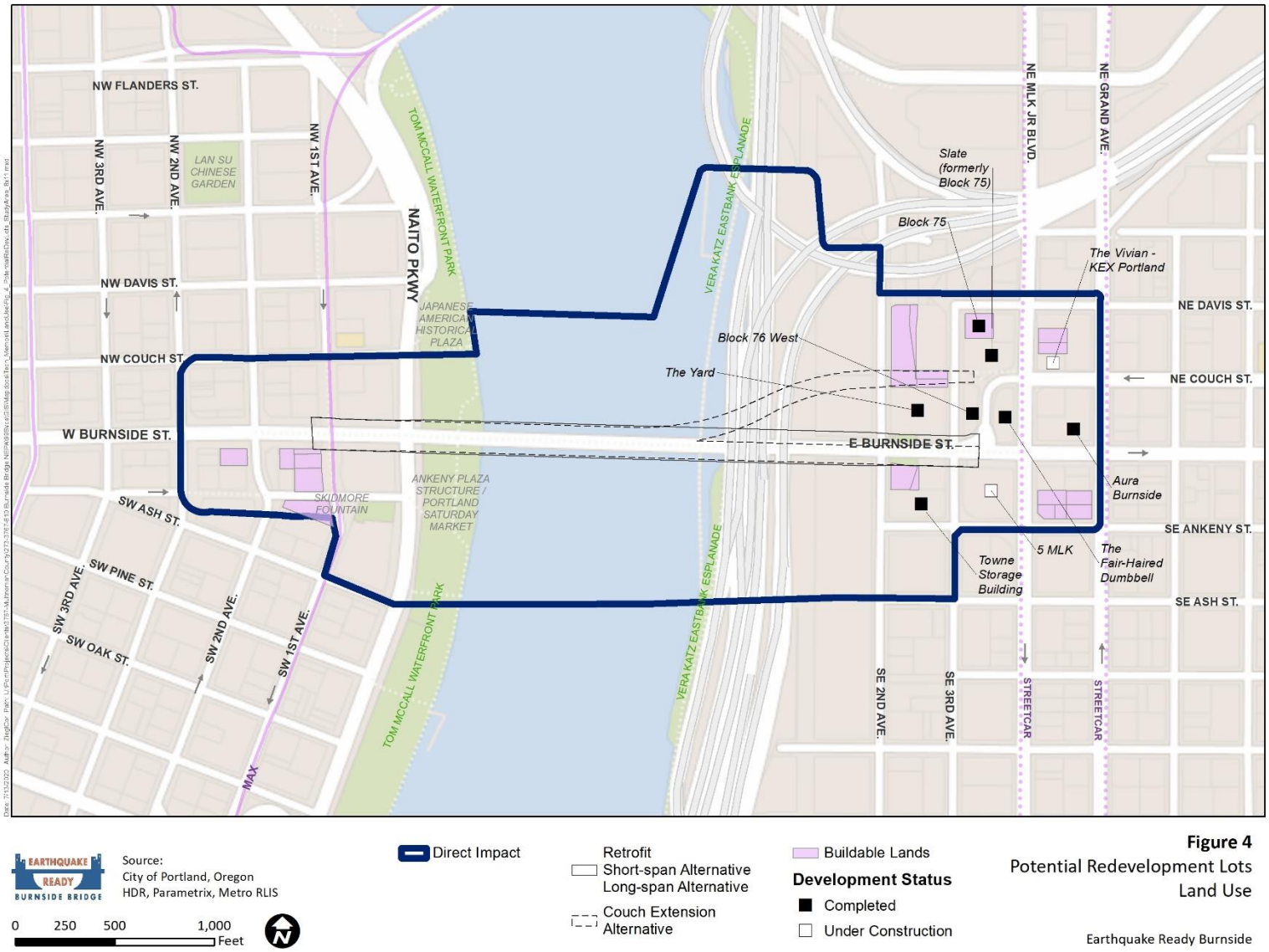
The City of Portland's Bureau of Planning and Sustainability's Buildable Lands Inventory model identifies parcels that are likely to be redeveloped in the city. This includes parcels that are either vacant or significantly underutilized in their allowed development capacity. The Buildable Lands Inventory modeling process calculates existing building square footages and allowed development limits and identifies parcels where significantly less than their allowed development capacity is used. The process applies development constraints to the identified parcels and calculates remaining capacity in terms of building square footage, allowed number of residential units, and allowed number of jobs.

Table 2 lists potential redevelopment lots located within the API. The list includes land and building valuations, zoning, current land use, and lot size. In the western portion of the API, new development and redevelopment opportunity sites consist of approximately 1.1 acres, located south of W Burnside Street and centered around the existing surface parking lots west of the intersection of SW Ankeny Street and SW 1st Avenue. Sites in the eastern part of the API comprise 2.9 acres in the area bounded by NE/SE 2nd Avenue, NE Davis Street, NE/SE Grand Avenue, and SE Ankeny Street. In the entire API, there are 16 lots, identified as potential sites for new development or redevelopment to a more intensive use. Of these lots, 3 are currently used for parking, 2 are vacant, 1 is right-of-way, and 10 are used for office, retail, or combination of the two. These lots are mapped in Figure 4.

Table 2. List of Potential Redevelopment Lots

RNO	SITEADDR	SITECITY	SITEZIP	LANDVAL	BLDGVAL	TOTALVAL	YEARBUILT	TAXCODE	SALEDATE	SALEPRICE	X_COORD	Y_COORD	GIS_ACRES	Bridgehead (east / west	Zoning	Business Name	PMX_LandUse	Redevelopable
R180200340	25 SW 1ST AVE	PORTLAND	97204	$1,066,810	$173,580	$1,240,390	1999	708		$0	7645575	684136	0.185916	West	CX - Central Commercial	Parking	Parking	Yes
R180200360	108 WI/ W BURNSIDE ST	PORTLAND	97209	$716,860	$13,610	$730,470	0	708		$0	7645573	684202	0.109046	West	CX - Central Commercial	Parking (Saturday Market Bathrooms)	Parking	Yes
R180200380	108 W BURNSIDE ST	PORTLAND	97209-4008	$241,190	$136,810	$378,000	1890	708		$0	7645571	684236	0.038088	West	CX - Central Commercial	Saturday Market HQ	Commercial: Office	Yes
R180200460	118-124 W BURNSIDE ST	PORTLAND	97209	$555,520	$0	$555,520	0	708		$0	7645501	684213	0.082203	West	CX - Central Commercial	Vacant	Vacant	Yes
R180201400	9-13 SW 2ND AVE	PORTLAND	97204	$906,730	$419,730	$1,326,460	1900	889		$0	7645313	684224	0.129758	West	CX - Central Commercial	Liberation Street Church + X Ultra Lounge	Commercial: Retail	Yes
R226504120	NE 2ND AVE	PORTLAND	97214	$720,660	$33,250	$753,910	0	884	200403	$230,000	7647678	684089	0.200097	East	EX - Central Employment	NA	Parking	Yes
R226504320	102 NE 2ND AVE	PORTLAND	97232-3479	$588,310	$642,530	$1,230,840	0	884	201208	$2,300,000	7647740	684433	0.273192	East	EX - Central Employment	NA	Right-of-way	Yes
R226504340	123 NE 3RD AVE	PORTLAND	97232-2974	$4,058,580	$22,449,230	$26,507,810	1926	884	201208	$2,300,000	7647743	684577	1.047224	East	EX - Central Employment	Exchange Ballroom + Offices	Commercial: Office	Yes
R226504950	111 WI/ NE M L KING BLVD	PORTLAND	97232	$1,951,790	$358,600	$2,310,390	0	884		$0	7647955	684613	0.198964	East	EX - Central Employment	NA	Vacant	Yes
R226507150	400 WI/ E BURNSIDE ST	PORTLAND	97214	$797,050	$0	$797,050	0	884	201808	$9,240,000	7648196	684004	0.114887	East	EX - Central Employment	Subaru of Portland	Commercial: Retail	Yes
R226507160	400 WI/ E BURNSIDE ST	PORTLAND	97214	$446,350	$0	$446,350	0	884	201808	$9,240,000	7648177	683956	0.064358	East	EX - Central Employment	Subaru of Portland	Commercial: Retail	Yes
R226507170	400 WI/ E BURNSIDE ST	PORTLAND	97214	$318,820	$0	$318,820	0	884	201808	$9,240,000	7648225	683953	0.045913	East	EX - Central Employment	Subaru of Portland	Commercial: Retail	Yes
R226507180	400 WI/ E BURNSIDE ST	PORTLAND	97214	$717,350	$0	$717,350	0	884	201808	$9,240,000	7648290	683951	0.103306	East	EX - Central Employment	Subaru of Portland	Commercial: Retail	Yes
R226507190	400 WI/ E BURNSIDE ST	PORTLAND	97214	$717,350	$0	$717,350	0	884	201808	$9,240,000	7648291	684001	0.103308	East	EX - Central Employment	Subaru of Portland	Commercial: Retail	Yes
R226507340	107 NE GRAND AVE	PORTLAND	97232-2936	$4,421,560	$4,425,750	$8,847,310	1927	884		0	7648267	684560	0.734884	East	EX - Central Employment	Shape Hair Design, Starks Vacuum, Cup and Bar	Commercial: Office/Retail	Yes
R667704700	120 SW ANKENY ST	PORTLAND	97204-3564	$5,592,800	$4,525,220	$10,118,020	1872	708	201709	$20,750,000	7645566	683993	0.583427	West	CX - Central Commercial	Mandarin House, Oregon DHS, Pho TNT, others	Commercial: Office/Retail	Yes

Figure 4. Map of Potential Redevelopment Lots



Source: City of Portland, HDR, Parametrix, Metro RLIS

5.3.3 Long-Range Plans

City of Portland 2035 Comprehensive Plan

The City of Portland's 2035 Comprehensive Plan is a long-range plan to help the City prepare for and manage population and employment growth and coordinate major public improvements. Existing zoning within the API is consistent with the City's comprehensive plan land use designations for the Central City Plan District. The City's 2035 Comprehensive Plan retains Commercial, Industrial, Central Employment, and Open Space as the primary designations for the area as shown in Figure 5. The 2035 Comprehensive Plan includes a transportation system plan (TSP) to meet state and regional planning requirements as well as local needs. The TSP includes policies that guide transportation development and implementation, necessary projects to accommodate growth, master street plans and modal plans, and strategies for implementation. The TSP promotes active transportation modes and network connectivity in the Central City area (please refer to the TSP Appendix A on the City of Portland's website for a list of future projects within the API).

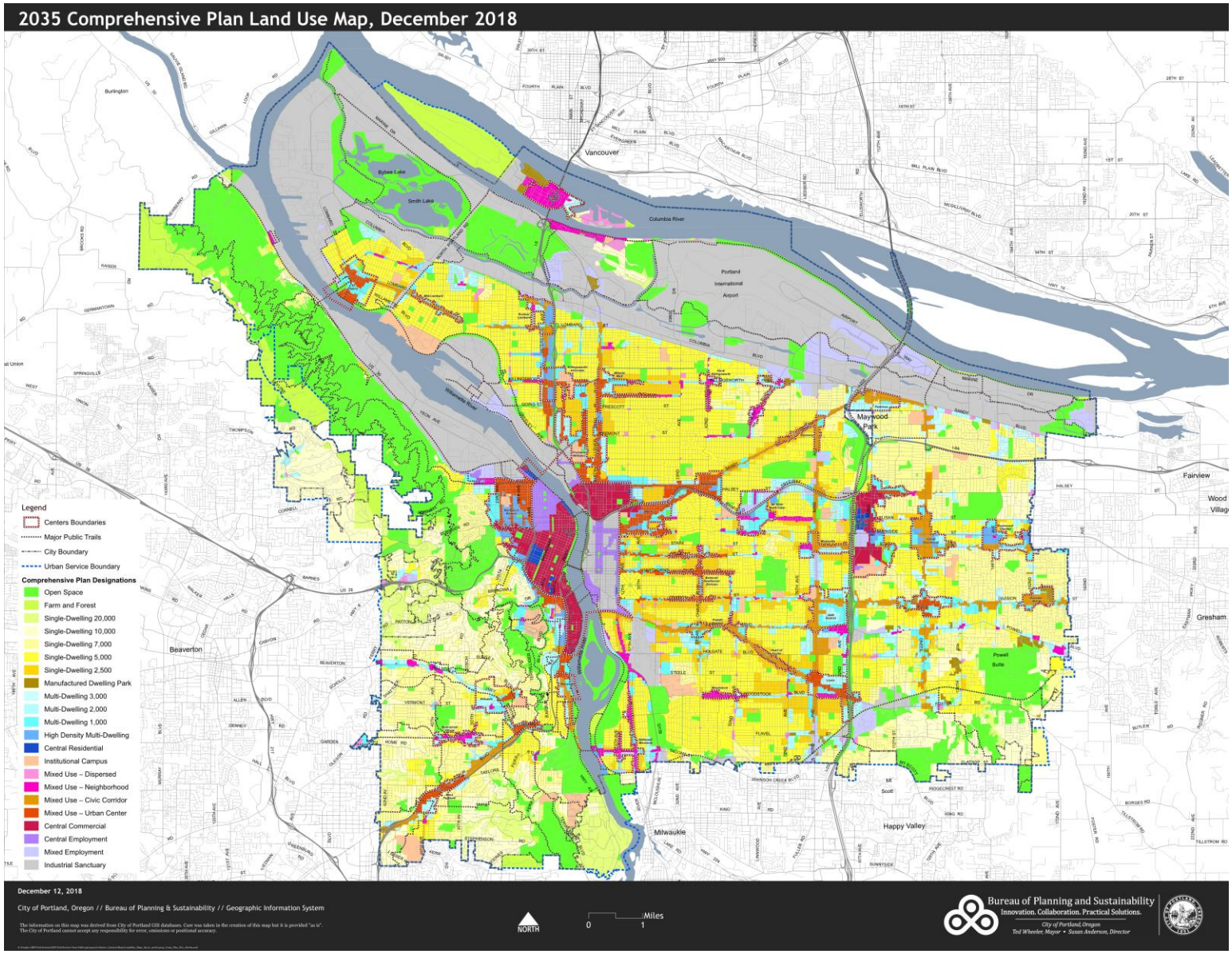
City of Portland Central City 2035 Plan

The Central City 2035 Plan[1] addresses "challenges and opportunities in the Central City to ensure this unique economic, transportation, cultural, and educational hub will be a vibrant resource for all Portlanders over the next 20 years." The plan recommends classifying the Burnside Bridge as a major emergency response route, a major transit priority street, major city traffic street, major city bikeway, and a city walkway. Several projects are recommended for the immediate area surrounding the bridge including corridor and bridge access improvements. Improving bike lanes across the bridge, providing physical separation from traffic, delineating a possible bus-only lane, and constructing pedestrian improvements are recommended for the Burnside Bridge in the Central City 2035 Plan.

The 2035 plan vision for Skidmore/Old Town and New Chinatown/Japantown is a vibrant, resilient, 24-hour neighborhood maintaining its rich cultural and historic past. The district maintains a mix of market rate, student, and affordable housing, as well as social service providers. The City foresees the district as being home to multicultural attractions and higher education institutions while supporting a mix of office employers, industry startups, retail, and other commercial uses. The City anticipates multimodal transportation facilities and safe and attractive street connections to provide enhanced access to the riverfront and nearby neighborhoods within the district.

[1] The Oregon Court of Appeals remanded the Central City 2035 Plan on March 16, 2020. The City addressed the necessary changes related to allowed heights in the New Chinatown/Japantown Historic District. City Council readopted the Central City 2035 Plan on July 8, 2020, and it went into effect on August 10, 2020.

Figure 5. 2035 Comprehensive Plan Land Use Map



Source: City of Portland Bureau of Planning and Sustainability

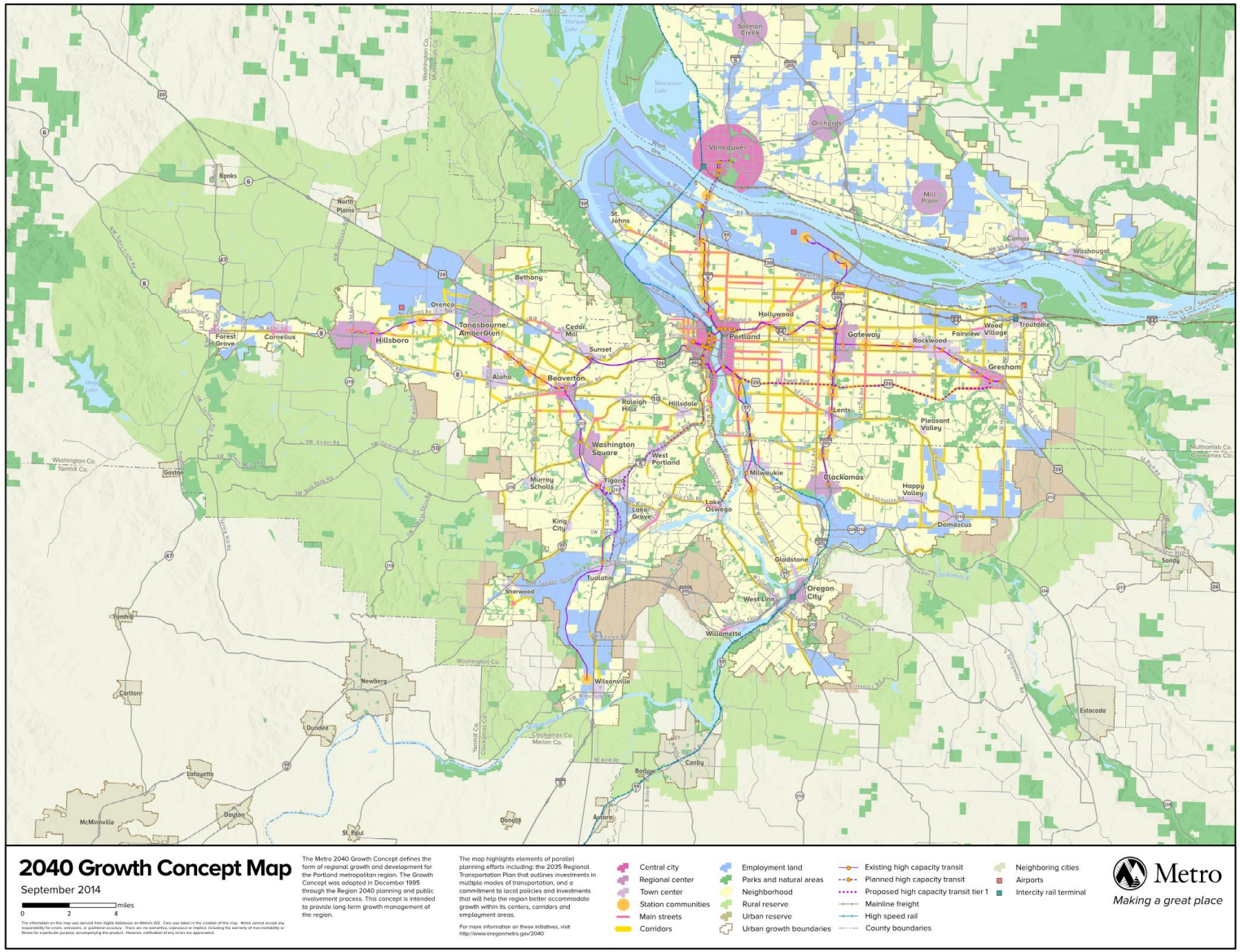
Metro 2040 Growth Concept

The Metro 2040 Growth Concept supports the continuation of the Central City area serving as the region's business and cultural hub. The plan recognizes intensive development of both housing and employment along with high-rise development. The 2040 Growth Concept Map (Figure 6) features the elements of parallel planning efforts from the 2035 Regional Transportation Plan and a commitment to local policies and investments to accommodate growth. The Growth Concept Map shows W/E Burnside Street designated as a Main Street and the existing high capacity transit running through the API on the west side of the river. The map also shows the locations of proposed regional and town centers, main streets, and corridors within the metropolitan region. Regional centers are hubs of commerce and local government services which are served by high-quality transit (examples include downtown Hillsboro and downtown Beaverton). Town centers have a strong community identity, provide services within a 2- to 3-mile radius and are also well served by transit (for example Lake Oswego and Aloha). Main streets are similar to town centers with a smaller scale commercial identity and strong neighborhood sense, while providing good access to transit (for example, Portland's W/E Burnside Street and Southeast Hawthorne Blvd). Corridors provide major transportation routes and are extensively served by transit (an example is Powell Boulevard in Portland).

Metro Regional Transportation Plan

Metro's Regional Transportation Plan is updated every 5 years (last updated in 2018) and supports providing "access to any activities crucial to the social or economic health of the greater Portland region…provides access to and within 2040 Growth Concept centers, main streets, corridors and industrial and employment areas" (Section 3.2). The plan identifies the importance of the regional transportation system including bridges crossing the Willamette River to support an interconnected system and planned land uses.

Figure 6. 2040 Growth Concept Map



Source: Metro

Metro Regional Framework Plan

Metro's Regional Framework Plan unites all of Metro's adopted land use planning policies and requirements. The framework document incorporates regional policies including the Regional Urban Growth Goals and Objectives, 2040 Growth Concept, and Regional Transportation Plan. The Regional Framework Plan policies aim to implement the 2040 Growth Concept and the following:

- Improve the safety of the transportation system.
- Provide a transportation system that is efficient and cost-effective, investing limited resources wisely.
- Provide access to more and better choices for travel in this region and serve special access needs of all people, including youth, elderly and disabled.
- Provide adequate levels of mobility for people and goods within the region.
- Limit dependence on any single mode of travel and increase the use of transit, bicycling, walking, carpooling, and vanpooling.
- Integrate land use, automobile, bicycle, pedestrian, freight, and public transportation needs in regional and local street designs.

Within this framework, an objective is to focus growth and transportation investment in designated 2040 growth areas, which includes Portland's Central City area. The framework encourages improving the transit system network, developing a multimodal street system, and maintaining regional through-routes to provide mobility to and from the Central City.

6 Impact Assessment Methodology and Data Sources

The impacts analysis addresses the direct long-term, direct short-term, indirect, and cumulative land use impacts of the Project Alternatives, including the No-Build Alternative. Analysis relies on technical analyses from several other disciplines including the visual resources, noise and vibration, flooding and hydraulics, vegetation, wildlife and aquatic species, and transportation technical reports (Multnomah County 2021).

6.1.1 Long-Term Impact Assessment Methods

Long-term direct land use impacts are defined as conversions of land to transportation use from another use. The analysis of direct impacts is largely based on the acquisition data developed for each Alternative. Only property acquisitions that would displace the existing non-transportation land use from a parcel are included in this analysis. The evaluation is conducted as follows:

- The land area converted to transportation use from other non-transportation uses is summed by the area needed for the Project overall, as well as by land needed for each Alternative, with an assessment of whether the conversions would constitute a

change to the overall land use character of the surrounding area. Lands adjacent to converted lands are reviewed for potential impacts from nearby conversions.

6.1.2 Short-Term Impact Assessment Methods

Short-term direct impacts to land use could arise from construction impacts on nearby properties. These are primarily described in terms of impacts to amenities or conditions that can affect existing land uses, such as those described below:

- Increases in noise levels, vibration, dust, odors, and traffic congestion inconsistent with existing land uses.
- Visual changes inconsistent with existing land uses including daytime glare or nighttime light pollution.
- Temporary increased difficulty accessing residential, commercial, and other land uses.

6.1.3 Indirect Impact Assessment Methods

Indirect land use impacts are changes in land use resulting from how constructing the Alternatives would affect the future likelihood that land would be developed or redeveloped differently than without the Project. This analysis considers how direct impacts, such as displacements, could indirectly influence development or redevelopment on other parcels. This assessment also considers how changes in travel patterns for vehicles, as well as other modes of transportation, may affect land use development patterns in the future. This qualitative evaluation includes factors that influence redevelopment likelihood, such as site access, adjacent land uses, physical characteristics, and interventions by local government.

6.2 Cumulative Impact Assessment Methods

The cumulative impacts analysis considers the Project's impacts combined with other past, present, and reasonably foreseeable future actions that would have environmental impacts in the Project vicinity. Based on the list of foreseeable transportation and other development projects that are anticipated to occur in the Project vicinity within the same time frame, as well as relevant past actions that have defined the Project vicinity, a qualitative analysis of cumulative effects is conducted for land use impacts. The analysis of potential cumulative land use impacts is examined for both near-term construction effects as well as long-term operational impacts.

7 Environmental Consequences

7.1 Introduction

The description of long-term impacts is divided into (1) pre-earthquake impacts, based on each Alternative's footprint and its day-to-day operations, as well as (2) impacts that would occur after the next CSZ earthquake, including how each Alternative affects resiliency, emergency response, and longer-term recovery.

7.2 Pre-Earthquake Impacts

All the Build Alternatives would require property acquisitions/displacements and easements as shown in Table 3 below. These are explained in more detail in the following sections for each Alternative. All Build Alternatives would also include improved access to the Vera Katz Eastbank Esplanade and the Skidmore Fountain MAX Station.

Riverfront access would be improved with a bike-pedestrian ADA-accessible ramp on the south side of the east approach to the Eastbank Esplanade. Please refer to the EQRB Parks and Recreation Technical Report (Multnomah County 2021i) for additional information.

The current stairwell from the south side of the west bridge approach to the Skidmore Fountain MAX Station would be replaced with an ADA-accessible ramp, and the existing stairway on the north side of the bridge would be reconstructed.

At the time of preparation of this report, the following City of Portland land use reviews were in process:

- A historic review for exterior building lights at 223–225 SW Ash Street
- A historic review to add exterior illuminated signs to 111–113 SW Naito Parkway
- Land use review for a Statewide Goal exception for construction/repairs to Ankeny Pump Station
- A review for Multnomah County's bridge maintenance

Most of these land use reviews would not affect the Project, with the exception of Ankeny Pump Station improvements. These improvements would not affect the Burnside Bridge, but they would occur adjacent to the bridge and have the potential to impact the pump station which is further described in the EQRB Draft Section 4(f) Analysis (Multnomah County 2021d) and EQRB Cultural Resources Technical Report (Multnomah County 2021b).

Table 3. Impacted Properties – Long-Term Impacts

Land Use Type / Map ID	Property Name	Seismic Retrofit	Short-Span Alternative	Long-Span Alternative	Couch Extension	Additional with Temporary Bridge
Commercial						
3	Portland Saturday Market Storage (City of Portland) W Burnside St	Easement	Easement	Easement	Easement	-
5	Saturday Market Administration Offices (Skidmore Fountain Plaza, LLC) 108 W Burnside St	**Full Acquisition:** (1) Business Displacement	**Full Acquisition:** (1) Business Displacement	**Full Acquisition:** (1) Business Displacement	**Full Acquisition:** (1) Business Displacement	-

Land Use Type / Map ID	Property Name	Seismic Retrofit	Short-Span Alternative	Long-Span Alternative	Couch Extension	Additional with Temporary Bridge
19	Eastside Exchange Building (Bridgehead Development LLC) 123 NE 3rd Ave	-	-	-	Partial Acquisition	-
Institutional						
4	University of Oregon Retail Space (City of Portland) W Burnside St	**Full Acquisition:** (1) Business Displacement of Personal Property	**Full Acquisition:** (1) Business Displacement of Personal Property	**Full Acquisition:** (1) Business Displacement of Personal Property	**Full Acquisition:** (1) Business Displacement of Personal Property	-
14	BES Pump Station (City of Portland) 30 SW Naito Pkwy	Easement (Subgrade)	Easement (Subgrade)	-	Easement (Subgrade)	-
Social Service – No long-term impacts						
Industrial						
16	Pacific Coast Fruit Company 201 NE 2nd Avenue	(1) Business Displacement	(1) Business Displacement	(1) Business Displacement	**Full Acquisition:** (1) Business Displacement	-
17	Rose City Transportation (David Nemarnik) 201 NE 2nd Avenue	**Full Acquisition:** (1) Business Displacement	**Full Acquisition:** (1) Business Displacement	**Full Acquisition:** (1) Business Displacement	**Full Acquisition:** (1) Business Displacement	-
18	American Medical Response (Produce Row LLC) 333 SE 2nd Avenue	Partial Acquisition: (1) Business Displacement	Partial Acquisition: (1) Business Displacement	Partial Acquisition: (1) Business Displacement	Partial Acquisition: (1) Business Displacement	-
Park/Open Space						
12	Japanese American Plaza (City of Portland) 10 NW Naito Pkwy	Easement (Subgrade)	Easement (Subgrade)	-	Easement (Subgrade)	-
13	Ankeny Plaza Structure (City of Portland) 98 SW Naito Pkwy	Easement (Subgrade)	Easement (Subgrade)	-	Easement (Subgrade)	-
Mixed Use						
21	The Yard (Yard Residences LLC) 33 NE 3rd Ave	-	-	-	Partial Acquisition	-

Land Use Type / Map ID	Property Name	Seismic Retrofit	Short-Span Alternative	Long-Span Alternative	Couch Extension	Additional with Temporary Bridge
25	The Slate (Block 75) 321 NE Couch St	-	-	-	Partial Acquisition	-
Multi-Family - No long-term impacts						
Parking						
8	Diamond Parking Services (Skidmore Fountain Plaza, LLC) 108 W Burnside St	**Full Acquisition:** (1) Business Displacement	**Full Acquisition:** (1) Business Displacement	**Full Acquisition:** (1) Business Displacement	**Full Acquisition:** (1) Business Displacement	-
9	Diamond Parking Services (Skidmore Fountain Plaza, LLC) 25 SW 1st Avenue	**Full Acquisition**	**Full Acquisition**	**Full Acquisition**	**Full Acquisition**	-
Right-of-Way						
20	The Yard – Pedestrian / Bike Right-of-way (Bridgehead Development LLC) 102 NE 2nd Ave	-	-	-	**Full Acquisition**	-
A	Willamette River (Dept of State Lands)	Easement	Easement	-	Easement	-
C	I-5 & I-84 (ODOT)	Easement	Easement	-	Easement	-
D	Union Pacific Railroad	-	-	-	Easement	-
Vacant						
7	Vacant Lot (Skidmore Fountain Plaza, LLC) 118–124 W Burnside St	**Full Acquisition**	**Full Acquisition**	**Full Acquisition**	**Full Acquisition**	-
26	Block 76 365 NE Couch St	Partial Acquisition	Partial Acquisition	Partial Acquisition	-	-
Summary (Totals)						
Full Acquisitions		6	6	6	8	0
Number of Businesses Displaced		4	4	4	5	0
Partial Acquisitions		2	2	2	4	0
Number of Businesses Displaced		1	1	1	1	0

Land Use Type / Map ID	Property Name	Seismic Retrofit	Short-Span Alternative	Long-Span Alternative	Couch Extension	Additional with Temporary Bridge
Business Displacement without Acquisition		1	1	1	0	0
Easements		6	6	1	7	0

Notes:

Map ID 4: The University of Oregon uses this space and they are identified as a business displacement of personal property.

Map ID 5: Saturday Market would be permanently displaced from their administration offices but would only be temporarily displaced from their market location on the waterfront. A single permanent displacement has been tallied for this business.

Map IDs 8 and 9: Diamond Parking Services would be displaced from Map IDs 8 and 9 but are only counted as one business displacement.

Map ID 16: The Retrofit, Short-span, and Long-span Alternatives could potentially displace the Pacific Coast Fruit Company business due to impacts to the Rose City Transportation building next door which shares a wall. Because of the uncertainty surrounding the building impacts and the duration of the closure (greater than 12 months), Pacific Coast Fruit Company is being included as a business displacement.

Bold font emphasizes full acquisitions.

The table below shows the number of acres by land use type permanently converted to a transportation use by each Build Alternative. The land impacts to the Burnside Skatepark are not reflected in Table 4 as the skatepark is not a designated taxlot parcel. The skatepark is a recreational use.

Table 4. Land Use Types Permanently Converted to Transportation Use by Alternative

Land Use Type	Retrofit Alternative (acres)	Short-Span Alternative (acres)	Long-Span Alternative (acres)	Couch Extension (acres)	Additional with Temporary Bridge (acres)
Commercial	0.04	0.04	0.04	0.07	0
Industrial	1.63	1.63	1.63	3.8	0
Institutional	0	0	0	0	0
Mixed Use	0	0	0	0.11	0
Multi-Family	0	0	0	0	0
Park/Open Space	0	0	0	0	0
Parking	0.3	0.3	0.3	0.3	0
Right-of-way	0	0	0	0.27	0
Social Services	0	0	0	0	0
Vacant	0.08	0.08	0.08	0.08	0

Source: Summarized from the EQRB Acquisitions and Displacements Technical Report (Multnomah County 2021a).

7.2.1 No-Build Alternative

The No-Build Alternative would not directly change any of the existing land uses within the API.

7.2.2 Enhanced Seismic Retrofit Alternative

Direct

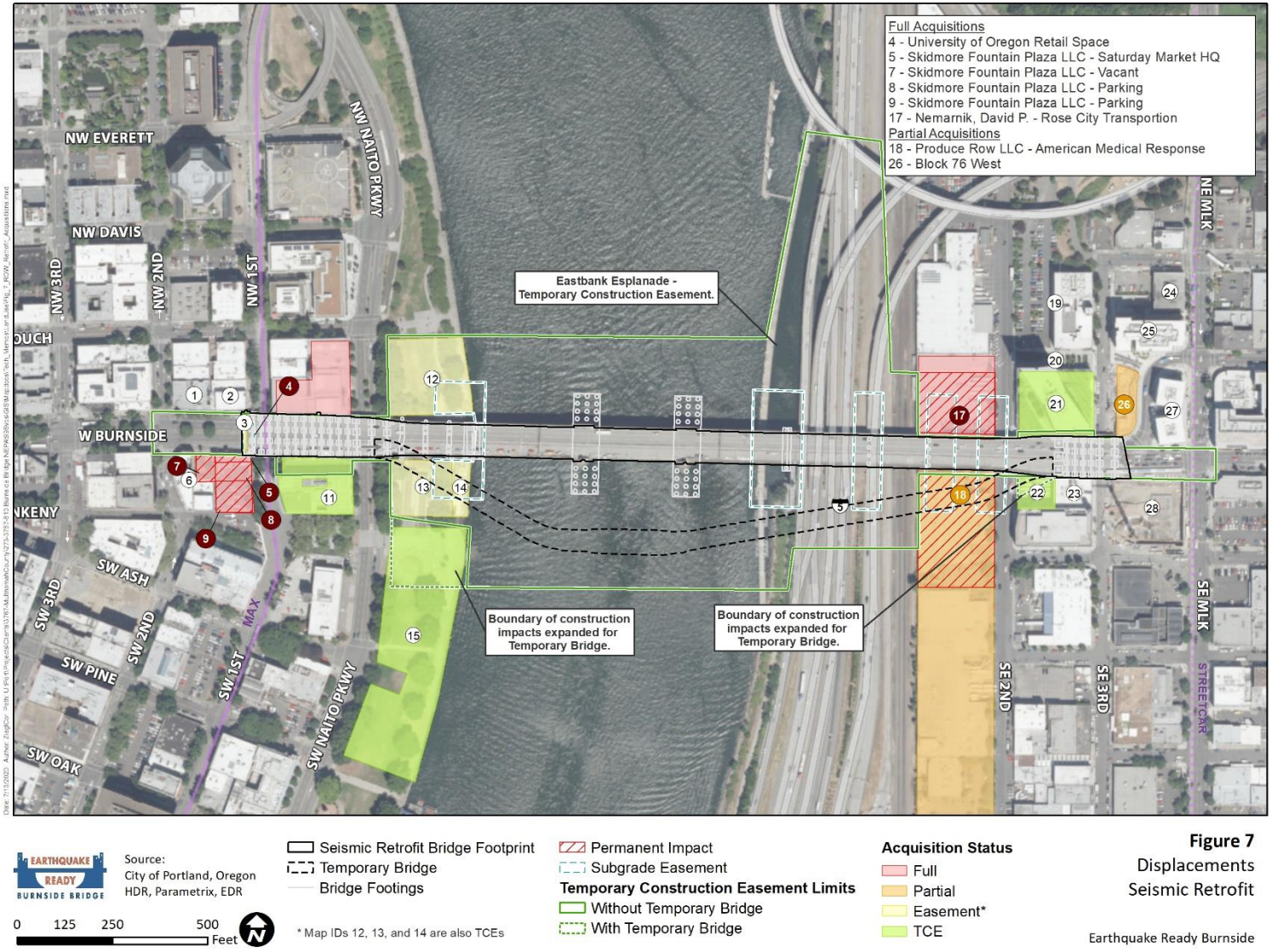
This Alternative anticipates six full property acquisitions, two partial property acquisitions, and six permanent easements (three of which are subgrade easements as identified in Figure 7 and two are right-of-way impacts which are not taxlot-specific, Figure 8). From these impacts, six businesses would be displaced (one of which would not include an acquisition); they are listed below. No residential displacements would occur. The Retrofit Alternative would impact 0.04 acres of commercial, 0 acres of institutional, 1.63 acres of industrial, 0.3 acres of parking, and 0.08 acres of vacant land uses by full and partial acquisitions with permanent conversions of land use types to a transportation use.

Full Property Acquisitions

- Map ID #4 – Taxlot 1N1E34DB-01400 is a full acquisition and business displacement (of personal property) for the current University of Oregon retail space located under the west side of the bridge off W Burnside Street and 1st Avenue. Figure 7 shows the displacements for this Alternative and calls out the classroom as Site 4. This property is owned by the City of Portland and would not be reconstructed following the completion of the Project.
- Map ID #7 – Taxlot 1N1E34CD-00100 (R180200460) at 118–124 W Burnside Street is a vacant lot of 0.08 acre zoned CXd, Central Commercial with a design overlay, within the Central City Plan District (CC) and Skidmore/Old Town Historic District (SO). This parcel is zoned CX in the 2035 Comprehensive Plan. This lot is vacant and would not require a displacement.
- Map ID #5 – Taxlot 1N1E34DC-00800 (R180200380) at 108 W Burnside Street is a 0.04-acre lot with a low-rise office building occupied by Portland Saturday Market administration and an associated billboard. This parcel is zoned CXd, Central Commercial with a design overlay, within the Central City Plan District (CC) and Skidmore/Old Town Historic District (SO). This parcel is zoned CX in the 2035 Comprehensive Plan. The existing building would be removed and an ADA access ramp would be built in its place after construction to provide access to the Skidmore Fountain MAX Station.[2]

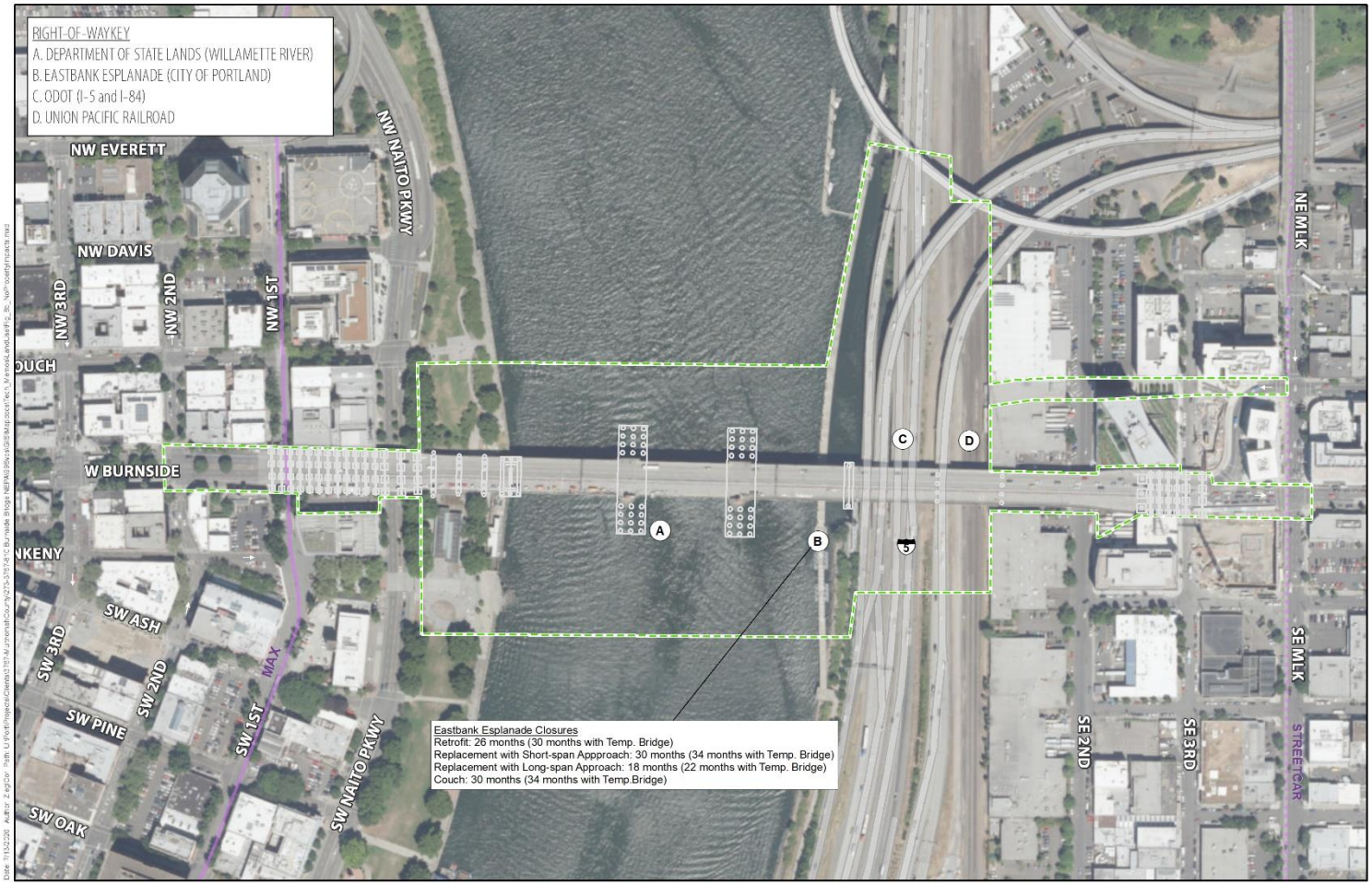
[2] Please refer to the Skidmore/Old Town Historic Design Guidelines in Section 4.2, Design Standards, for more information regarding applicable design standards related to the access ramp.

Figure 7. Displacements – Seismic Retrofit



Source: City of Portland, Oregon, HDR, Parametrix, Environmental Data Resources

Figure 8. Right-of-Way Impacts



Source: City of Portland, Oregon, HDR, Parametrix

- Map ID #8 – Taxlot 1N1E34DC-00900 (R180200360) at 108 W Burnside Street is an 0.11-acre parking lot with an “Office Low Rise” use designation owned by Diamond Parking Service. This parcel is also zoned CXd within the CC Plan District and SO Historic District and designated CX in the 2035 Comprehensive Plan.
- Map ID #9 – Taxlot 1N1E34DC-01000 (R180200340) at 25 SW 1st Avenue is a 0.18-acre parking lot owned by Diamond Parking Service. This parcel is zoned CXd within the CC Plan District and SO Historic District and designated CX in the 2035 Comprehensive Plan.
- Map ID #17 – Taxlot 1N1E34DA-01900 (R226502220) at 201 NE 2nd Avenue is a 1.24-acre lot owned by Rose City Transportation and includes a parking lot and commercial low-rise building. This parcel is zoned General Industrial (IG1) in the Central City Plan District (CC). The 2035 Comprehensive Plan maintains the IG1 zoning designation.

Partial Property Acquisitions

- Map ID #18 – Taxlot 1N1E34DD-01000 (R299100010) at 333 SE 2nd Avenue is a business displacement and partial parcel acquisition of 0.87 acre of a low-rise building occupied by American Medical Response Ambulance Service. This parcel is zoned General Industrial (IG1) in the Central City Plan District (CC) and maintains this zoning designation in the Comprehensive Plan.
- Map ID #26 – Taxlot 1N1E34DA-03300 (R150030) is a partial acquisition of a vacant lot located at 365 NE Couch Street, owned by Block 76, LLC, with 0.12 acres. This lot is zoned Central Employment (EX) with a design (d) overlay and located in the Central City Plan District (CC). This lot maintains the same zoning designation in the 2035 Comprehensive Plan.

Permanent Easements

- Map ID #3 – Taxlot 1N1E34DB-01500 is a permanent easement for the Portland Saturday Market storage located under the west side of the bridge. This is a City of Portland–owned property.

Business Displacement

- Map ID #16 – Taxlot 1N1E34DA-01500 (R226502140) at 201 NE 2nd Avenue is a business displacement without an acquisition of 1.88 acres owned by the Pacific Coast Fruit Company including a one- to two-story low-rise warehouse building on the east end of the Burnside Bridge. This parcel is zoned General Industrial (IG1), is in the Central City Plan District (CC), and maintains the same zoning designation in the 2035 Comprehensive Plan. The Retrofit, Short-span, and Long-span Alternatives could potentially displace the Pacific Coast Fruit Company business due to impacts to the Rose City Transportation building next door which shares a wall. Due to the uncertainty surrounding the building impacts and the lengthy duration of closure (greater than 12 months), this property is being included as a business displacement.

Additionally, the construction of a pier wall for the Retrofit Alternative would permanently demolish and displace the Burnside Skatepark located under the east end of the

Burnside Bridge on public right-of-way. Rebuilding the skatepark in the current location following construction would not be possible due to the new pier wall. The skatepark is not operated by a public agency (maintained by volunteers); however, it has been a public recreational space for over 25 years. See the EQRB Parks and Recreation (Multnomah County 2021i) and Cultural Resources (Multnomah County 2021b) Technical Reports and the EQRB Draft Section 4(f) Analysis (Multnomah County 2021d) for more information about this displacement.

Indirect

Indirect impacts are anticipated to be minor as there are no changes to the long-term travel patterns, bridge vehicle capacity, or connections with this Alternative. The anticipated acquisitions and displacements associated with this Alternative could provide redevelopment opportunities to support intense high-density development in the area for housing and a mix of employment and commercial opportunities which is consistent with the Metro 2040 Growth Concept and current zoning regulations. Figure 7 shows the locations where these acquisitions would occur. Improved ADA access to the Eastbank Esplanade could attract more trail users.

Three of the affected parcels have IG1 (General Industrial) zoning in which the primary purpose is to provide land for a variety of industrial purposes. The IG1 zone restricts other uses to prevent potential conflicts and to preserve land for industry.

Vacant taxlot 1N1E34CD-00100 (R180200460) at 118–124 W Burnside Street would not be available for potential new development as it would maintain a permanent right-of-way for a transportation use for light rail pedestrian access.

7.2.3 Replacement Alternative with Short-Span Approach

Direct

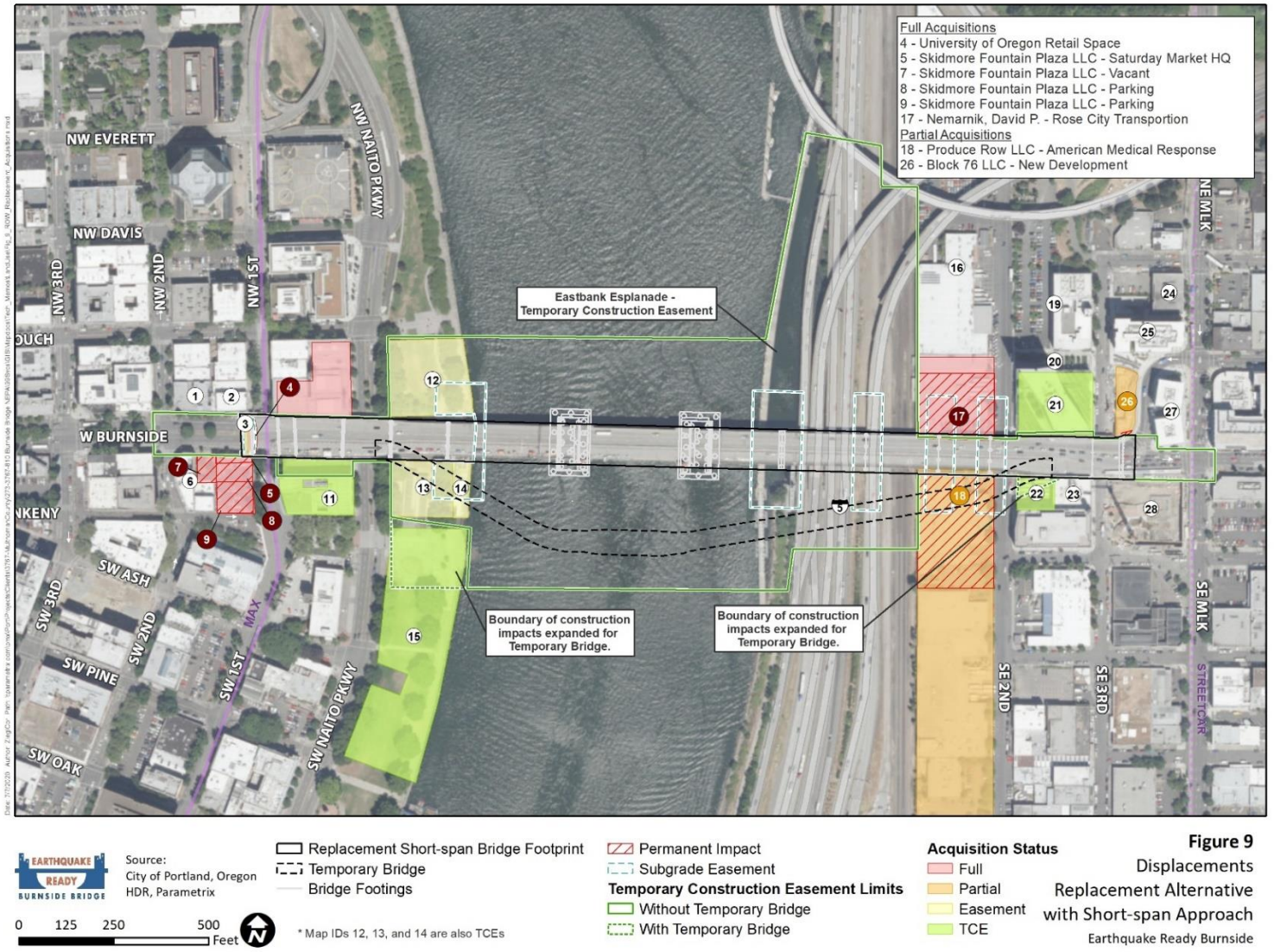
The Short-span Alternative would have the same displacements as for the Retrofit Alternative (six full acquisitions, two partial acquisitions, and six easements) as shown in Figure 9 and the same permanent land use impacts shown in Table 4.

This Alternative would not remove the Burnside Skatepark, but it would include intermittent closures during construction.3

Visual impacts could be more apparent with the potential vertical lift movable-span option (compared to the bascule lift with the Retrofit Alternative). The taller height associated with the vertical lift option could be seen from a greater distance and could impact neighbors' views on both the west and east sides of the river. Views of the White Stag sign could potentially be impeded. Please refer to the EQRB Visual Resources Technical Report (Multnomah County 2021n) for more information.

[3] See the EQRB Parks and Recreation Technical Report for more information.

Figure 9. Displacements – Short-Span Alternative



Source: City of Portland, Oregon, HDR, Parametrix

Indirect

Similar to the Retrofit Alternative, indirect impacts are anticipated to be minor as there are no long-term travel pattern, bridge capacity, or connection changes with this Alternative. Redevelopment opportunities stemming from property acquisitions and displacements are the same as for the Retrofit Alternative. Improved ADA access to the Eastbank Esplanade could attract more trail users.

7.2.4 Replacement Alternative with Long-Span Approach

Direct

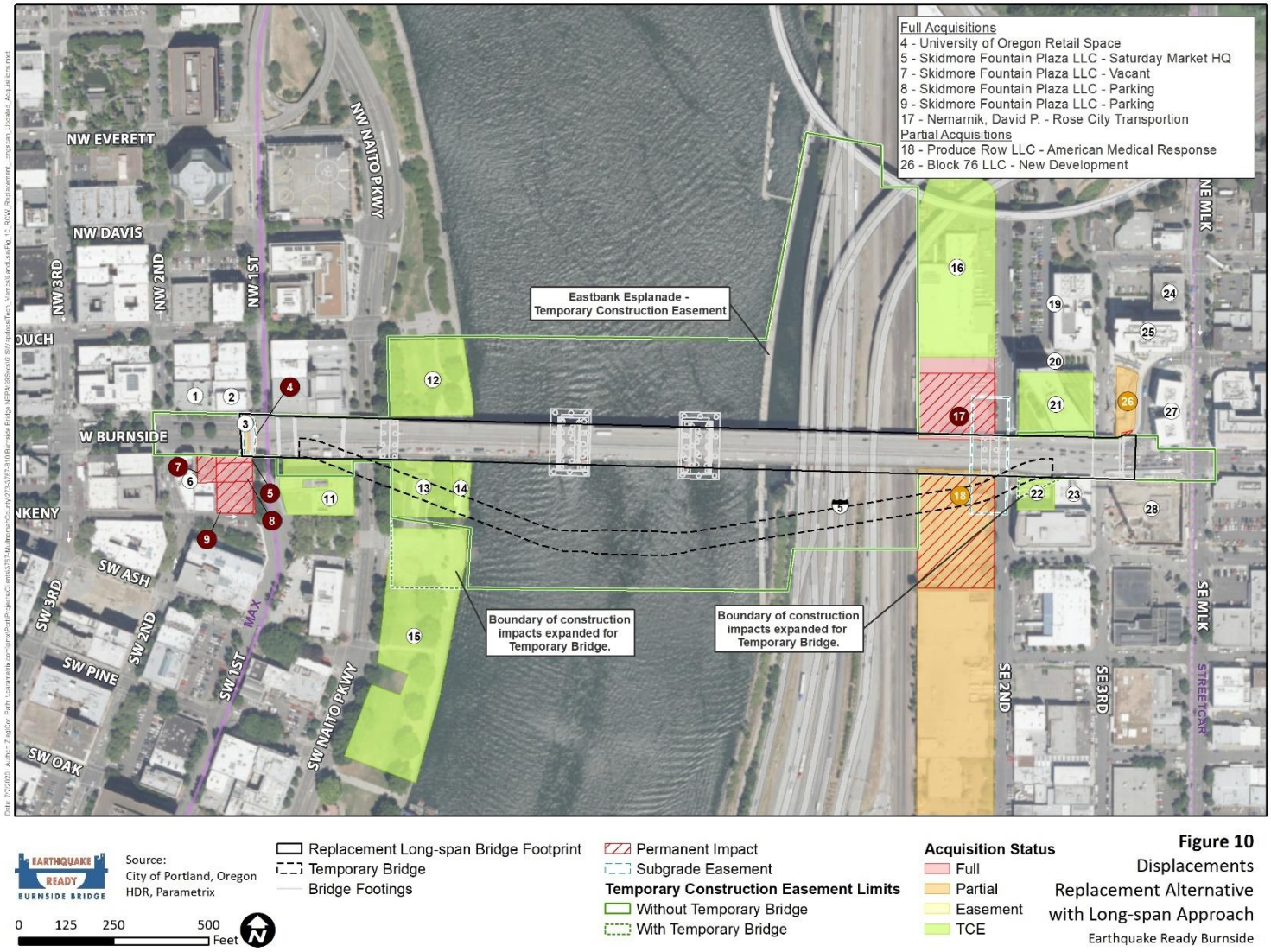
The displacements for the Long-span Alternative are similar to those for the Short-span Alternative (six full acquisitions and two partial acquisitions), with a few differences as shown in Figure 10. The Long-span Alternative has one permanent easement, and it would eliminate a pier within Waterfront Park allowing more space for park use, eliminate an in-water pier/bent near the eastern shoreline (reducing impacts to the Eastbank Esplanade), and eliminate two sets of upland bents on the east side within the I-5 and I-84 rights-of-way (west of 2nd Avenue), which would eliminate impacts to any potential future freeway improvements. No other changes to land use impacts would occur with the Long-span Alternative. This Alternative would have the same acreage of long-term impacts as the Short-span Alternative; however, because it would result in no bridge supports in Waterfront Park. there would be an overall increase in area available to the park for recreation or recreation support services use.

As with the Short-span Alternative, visual impacts could be more apparent with the vertical lift movable-span option. Views of the White Stag sign could potentially be impeded. The Long-span Alternative could also have greater visual impacts because of its taller abovedeck structure. The potential cable-stayed bridge type could have greater visual impacts to the Yard building compared to other bridge types because it would locate the towers closer to the existing buildings on the east side of the river. The cable-stayed components would also increase vertical elements present above the bridge deck which could impact or impede views. Please refer to the EQRB Visual Resources Technical Report (Multnomah County 2021n) for more information.

Indirect

Similar to the Retrofit Alternative, indirect impacts are anticipated to be minor as there are no long-term travel pattern, bridge capacity, or connection changes with this Alternative. Redevelopment opportunities stemming from property acquisitions and displacements are the same as for the Retrofit Alternative. Improved ADA access to the Eastbank Esplanade could attract more trail users.

Figure 10. Displacements – Long-Span Alternative



Source: City of Portland, Oregon, HDR, Parametrix

7.2.5 Replacement Alternative with Couch Extension

Direct

The Couch Extension Alternative includes many of the same property acquisitions, business displacements, and permanent land use impacts as the previous Build Alternatives but with a few changes. Unlike with the Retrofit, Short-span, and Long-span Alternatives, vacant lot (owned by Block 76, LLC) would not be included as a partial acquisition with the Couch Extension Alternative. This Alternative would include eight full acquisitions, four partial acquisitions, and seven easements (three of which are right-of-way impacts that are not taxlot-specific, see Figure 8). Industrial land uses would have 3.8 acres of permanent impact under this alternative compared with 1.63 acres under the other Build Alternatives.

The additional acquisitions for this Alternative are described below.

Full Property Acquisitions

- Map ID #16 – Taxlot 1N1E34DA-01500 (R226502140) is a full acquisition and business displacement with this Alternative (whereas it is only a business displacement with the Retrofit, Short-span, and Long-span Alternatives). The parcel is located at 201 NE 2nd Avenue, with 1.88 acres owned by the Pacific Coast Fruit Company. It includes a one- to two-story low-rise warehouse building on the east end of Burnside Bridge. This parcel is zoned General Industrial (IG1), is in the Central City Plan District (CC), and maintains the same zoning designation in the 2035 Comprehensive Plan.
- Map ID #20 – Taxlot 1N1E34DA-02602 is a full acquisition of the bicycle and pedestrian right-of-way owned by Bridgehead Development, LLC, located at 102 NE 2nd Avenue with 0.27 acre of land. This parcel is zoned EXd (Central Employment with a design overlay) in the Central City Plan District. It maintains the same zoning designation in the 2035 Comprehensive Plan. More information regarding this parcel is addressed below.

Partial Property Acquisitions

- Map ID #19 – Taxlot 1N1E34DA-02800 is a partial acquisition of the Eastside Exchange Building located at 123 NE 3rd Avenue owned by Bridgehead Development, LLC. This parcel is zoned EXd (Central Employment with a design overlay) in the Central City Plan District. It maintains the same zoning designation in the 2035 Comprehensive Plan.
- Map ID #21 – Taxlot 1N1E34DA-02001 is a partial acquisition of The Yard Residences building located at 33 NE 3rd Avenue and owned by Yard Residences, LLC. This parcel is zoned EXd (Central Employment with a design overlay) in the Central City Plan District. It maintains the same zoning designation in the 2035 Comprehensive Plan.
- Map ID #25 – Taxlot 1N1E34DA-02900 is a partial acquisition of The Slate building owned by Block 75, LLC, located at 321 NE Couch Street. This parcel is zoned EXd

(Central Employment with a design overlay) in the Central City Plan District. It maintains the same zoning designation in the 2035 Comprehensive Plan.

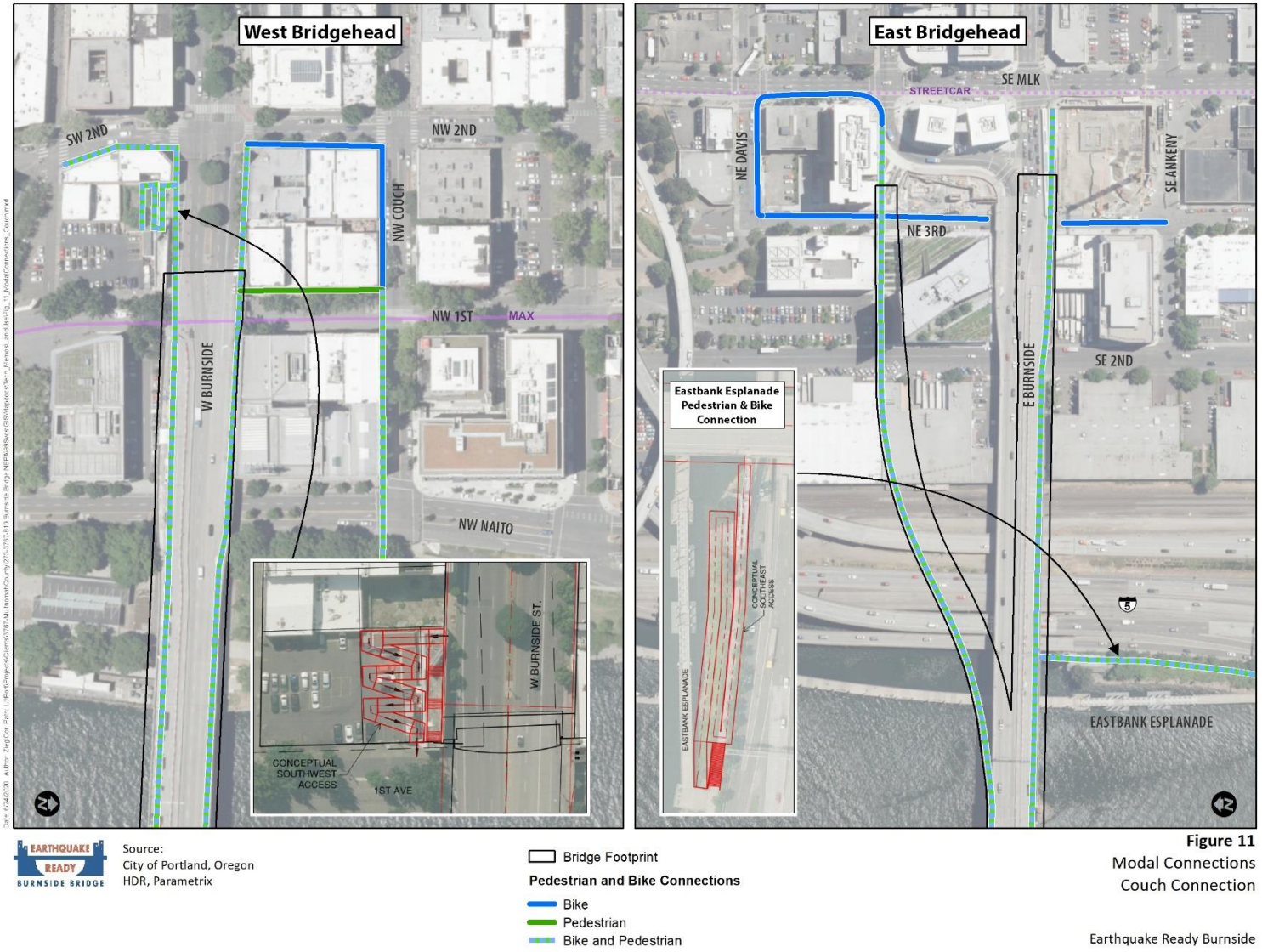
The existing Pacific Fruit Company building (zoned IG1) would be demolished to install the new bridge. Only a small portion of the parcel would be needed in the long term, so upon Project completion the parcel could be resold and redeveloped.

The Couch Extension would eliminate a pedestrian and bicycle courtyard and multi-use path (included in the Portland Bureau of Transportation Bike-Walk Map) located between multi-family residential and office buildings on the east side of the bridge. The pathway is within public right-of-way and is not considered a park. The Project would convert the area to a vehicular roadway use. Bikes and pedestrians would use a new connection traveling north on 3rd Avenue, east on Davis Street, then south on Martin Luther King, Jr. Boulevard to access the westbound multimodal bridge path (Figure 11). The Couch Extension would also include permanent right-of-way impacts from the adjacent elevated bridge which would be situated within 2 to 5 feet of three existing buildings: the Yard, Eastside Exchange, and Block 75 (Slate Apartments). Figure 12 shows pedestrian and vehicular access locations with respect to the proposed bridge structures. Figure 13 shows the access locations that would be permanently removed. Impacts from the elevated approach could include impacts to views and an increase in lighting (vehicle headlights) or decrease in lighting (structure blocking natural light) to adjacent buildings. The EQRB Noise and Vibration Technical Report (Multnomah County 2021h) states that no substantial increases in long-term noise from traffic would occur from this Alternative and that changes would be similar to those for the No-Build Alternative. Traffic noise levels from changes in roadway alignment are predicted to increase in some areas and decrease in others. Refer to the EQRB Noise and Vibration Technical Report (Multnomah County 2021h) for additional information concerning potential land use impacts. Impacts on Couch Street extend from 2nd Ave to Martin Luther King, Jr. Boulevard as shown in Figure 14.

Indirect

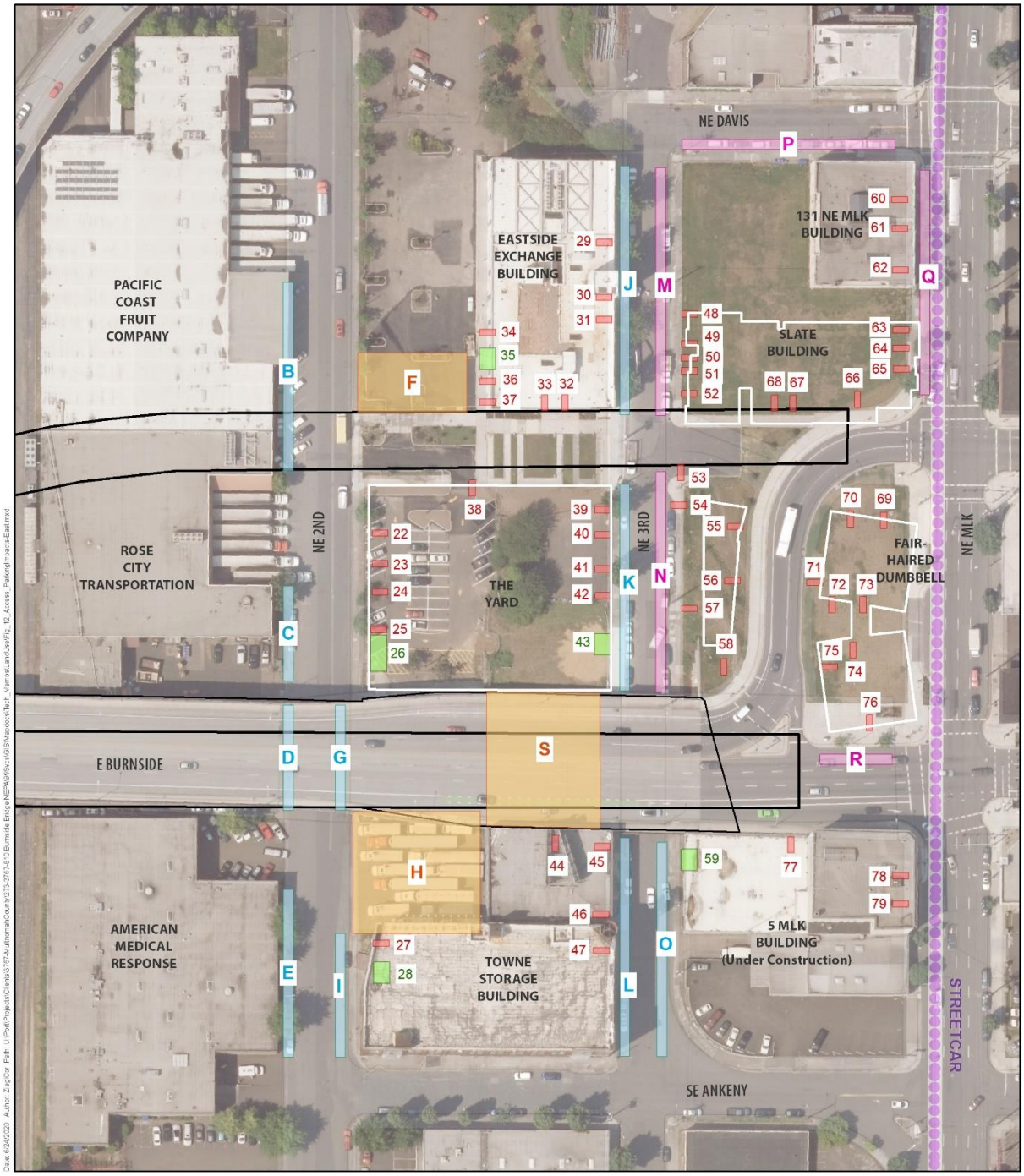
Similar to the other Build Alternatives, indirect impacts are anticipated to be minor as there are no long-term travel pattern, bridge capacity, or connection changes with this Alternative.

Figure 11. Modal Connections – Couch Connection



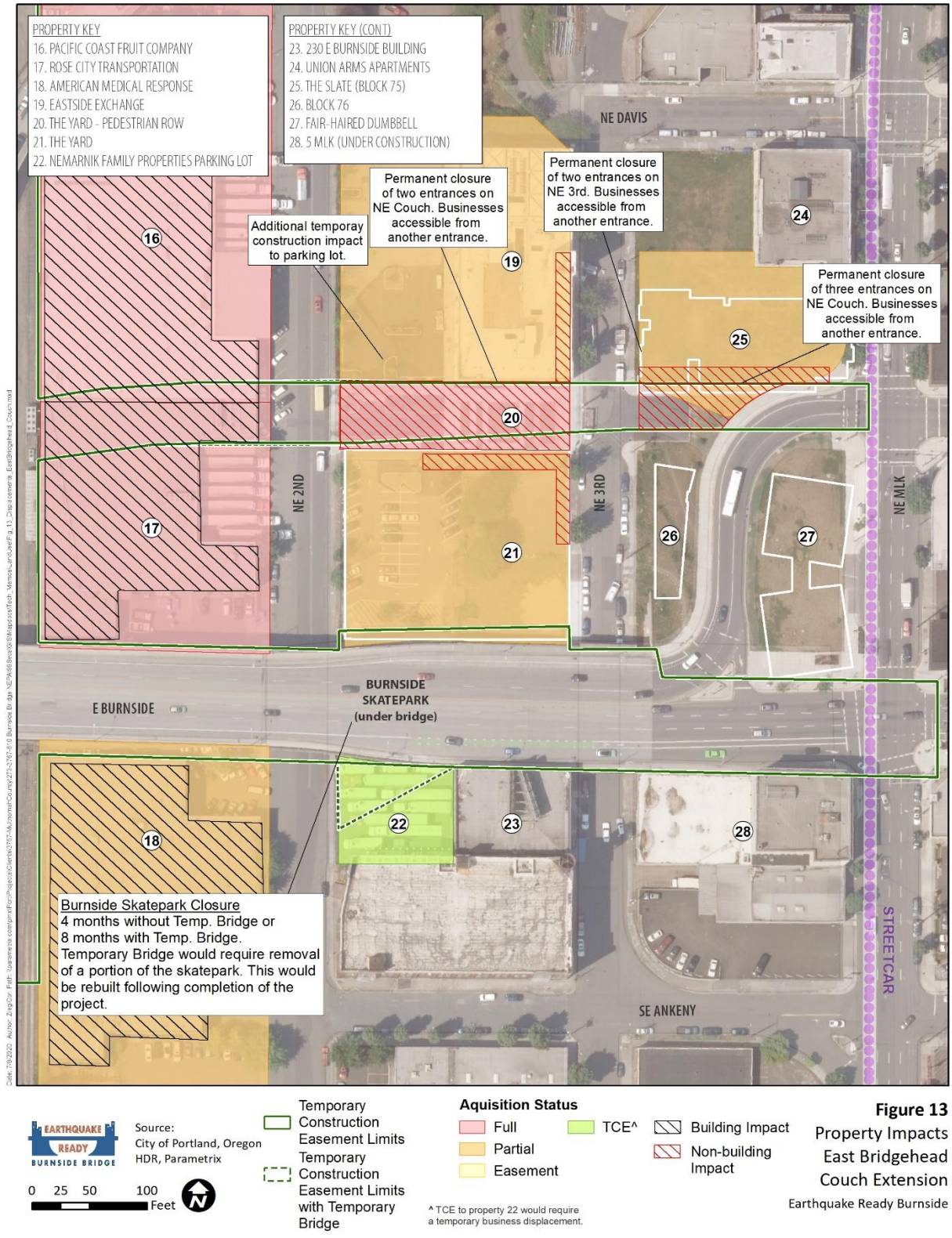
Source: City of Portland, Oregon, HDR, Parametrix

Figure 12. Access and On-Street Parking Impacts – East Bridgehead



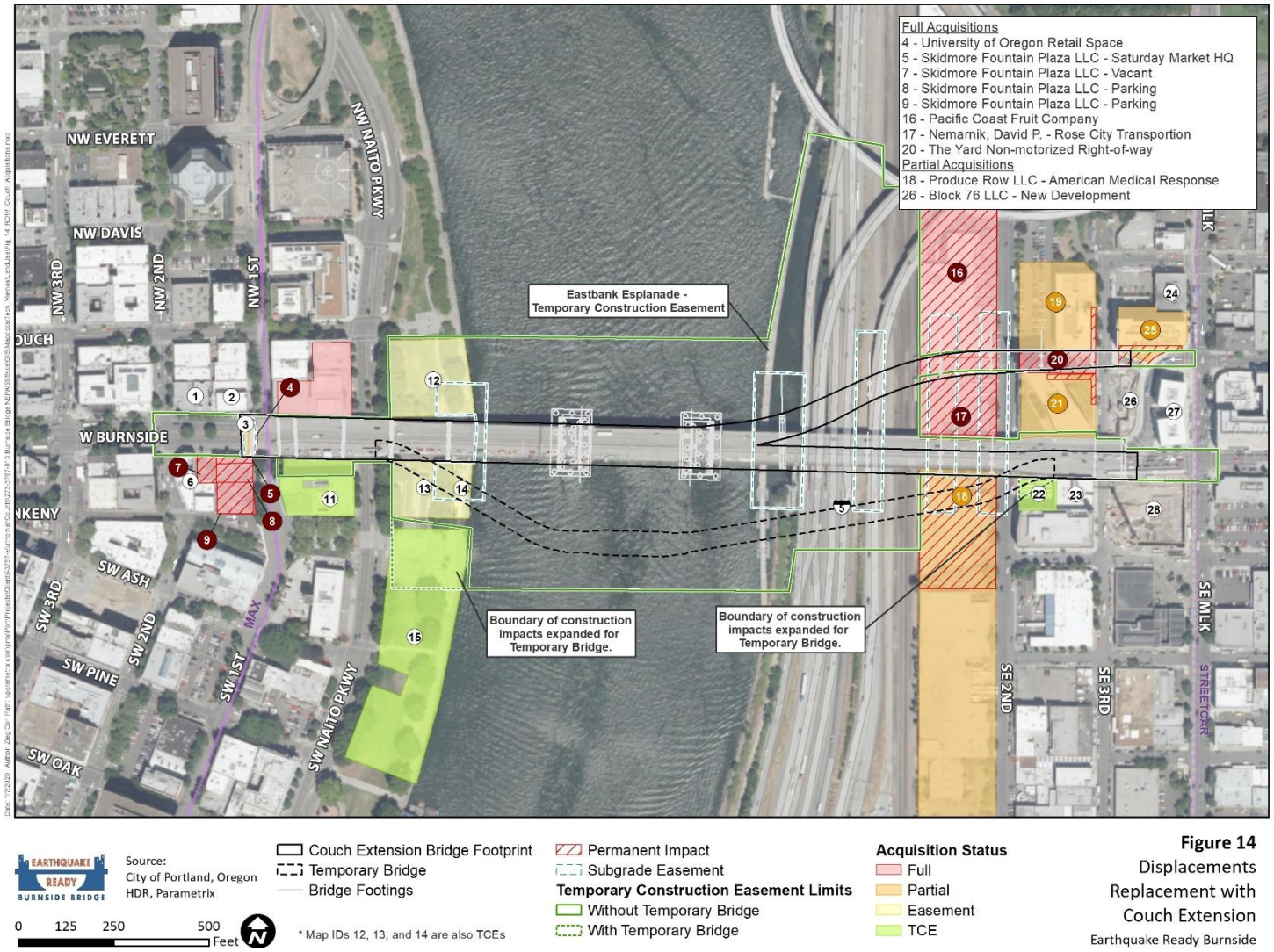
Source: City of Portland, Oregon, HDR, Parametrix

Figure 13. Property Impacts – East Bridgehead – Couch Extension



Source: City of Portland, Oregon, HDR, Parametrix

Figure 14. Displacements – Replacement with Couch Extension



Source: City of Portland, Oregon, HDR, Parametrix

7.3 Post-Earthquake Impacts

7.3.1 No-Build Alternative

The No-Build Alternative would result in bridge failure after a major CSZ earthquake, limiting access for emergency response and restricting recovery efforts. With limited to no access across the Willamette River, and with most activity after a major CSZ earthquake being focused on immediate life safety and survival, many non-essential business and land use types would be less frequented. Generally, a reduction in demand and access for non-essential use types could cause parts of the Project Area to become vacant. With long-term reconstruction and recovery, uses could be redeveloped to meet land use goals identified in the Central City Comprehensive Plan and zoning restrictions.

Access to essential survival and recovery services would be critical in the short term after the earthquake. Bridge failure could damage adjacent social service providers and shelters or block access, generating uncertainty of redevelopment during the recovery process (please refer to the EQRB Social/Neighborhood Technical Report [Multnomah County 2021k] for more information). Bridge failure could also obstruct access or damage the American Medical Response (AMR) emergency services building, located off SE 2nd Ave, hindering short-term recovery and survival efforts (refer to the EQRB Public Services Technical Report [Multnomah County 2021j] for more information). Bridge failure could impede access to essential services beyond the immediate Project Area (including the greater downtown area) also hindering survival rates and emergency response efforts.

The City of Portland's Comprehensive Plan 2035 and the Central City 2035 Plan identify the need of growing the region through developing transportation options, improving access to all bridges, and maintaining the Central City's vision of a vibrant and resilient neighborhood. The long-term effects from this Alternative could be considerable by having a domino effect on land uses outside of the immediate Project vicinity. Access to social services, employers, businesses/retail, and educational institutions in other parts of the city would be severely affected by a failed bridge, inhibiting the long-term goals of the local comprehensive plans.

7.3.2 Enhanced Seismic Retrofit Alternative

Direct

Seismic improvements to the bridge from the Retrofit Alternative would provide emergency responders and critical services with a route to cross the Willamette River directly after a major CSZ earthquake. This would improve survival rates and support and accelerate long-term recovery efforts including debris clearing, material transportation for reconstruction, and infrastructure restoration—all helping residents return to their daily activities.

Unlike the No-Build Alternative, the Retrofit Alternative would prevent bridge failure and reduce damage to adjacent buildings. The land uses that survived the earthquake would remain accessible after the initial debris clearance. Improved accessibility would increase the potential that fewer businesses would leave compared with the No-Build Alternative, maintaining land uses and providing greater stability to promote a faster recovery effort.

A resilient Burnside crossing would improve access to social service providers and AMR's response efforts.

Indirect

Initial debris clearing could potentially block access to adjacent land uses. After the immediate short-term recovery uses of the bridge, non-disrupted access to the Central City could help expedite post-earthquake redevelopment and stimulate growth to the area to meet uses identified in the 2035 Comprehensive Plan.

Resilient infrastructure, including transportation, improves the ability of regional long-term recovery after a major earthquake both economically and socially. Having resilient transportation infrastructure already in place would support and accelerate business and community recovery after a disaster.

7.3.3 Replacement Alternative with Short-Span Approach

Direct

The same impact considerations as described for the Retrofit Alternative apply to the Short-span Alternative with a few differentiating factors. The west approach bents and spans of the Short-span and Long-span Alternatives would provide more spacing between the bridge and adjacent buildings on the north side of the current approach; this could reduce the risk of the structures striking and damaging each other during an earthquake. This improves the likelihood that adjacent land uses remain standing and accessible after the earthquake.

Indirect

Minimizing subsequent damage to adjacent land uses would improve access and response times for essential services. Compared to the No-Build Alternative, damage to the AMR building would be less which would maintain access and allow for a quicker response thereby improving survival rates. Social service providers could experience less damage and improved access as well, reducing the need to relocate. The reduction of damage to adjacent land uses and greater accessibility to the Project Area could help maintain existing non-essential uses and businesses and lessen the amount of redevelopment required post-earthquake. As mentioned in the Retrofit indirect impacts section, resilient infrastructure improves and accelerates a region's long-term recovery.

7.3.4 Replacement Alternative with Long-Span Approach

Direct

The direct impacts for the Long-span Alternative are similar to those for the Short-span Alternative.

Indirect

The indirect impacts for the Long-span Alternative are similar to those for the Short-span Alternative. Fewer piers and bents associated with this Alternative, however, may

provide more space and easier access to areas under the bridge for post-earthquake cleanup and recovery efforts.

7.3.5 Replacement Alternative with Couch Extension

Direct

The direct impacts for the Couch Extension are similar to those for the Short-span Alternative on the west side and the east side's eastbound approach. The possible close proximity of the bridge structure to the adjacent land uses on the Couch Street approach on the east side could impede cleanup efforts and make debris clearance and land use access more difficult.

Indirect

The indirect impacts for the Couch Extension are similar to those for the Short-span Alternative.

7.4 Construction Impacts

The following section describes construction-related impacts for all Alternatives, including with and without a temporary bridge. All of the Alternatives would cause temporary construction-related impacts including temporary easements and access impacts (shown in Table 5), changes in noise levels, visual changes, and traffic detours and congestion which are described in greater detail below.

Table 5. Impacted Properties – Temporary Construction Impacts

Land Use Type / Map ID	Property Name	Retrofit Alternative	Short-Span Alternative	Long-span Alternative	Couch Extension	Additional with Temporary Bridge
Commercial						
11	Mercy Corps/Retail 45 SW Ankeny St	TCE	TCE	TCE	TCE	-
19	Eastside Exchange Building (Bridgehead Development LLC) 123 NE 3rd Ave	-	-	-	TCE Access	-
23	230 E Burnside Building (Templeton Office Investments LLC) 230 E Burnside St	TCE Access	TCE Access	TCE Access	TCE Access	-
27	Fair-Haired Dumbbell 11 NE MLK Jr. Blvd	-	TCE Access	TCE Access	TCE Access	-

Land Use Type / Map ID	Property Name	Retrofit Alternative	Short-Span Alternative	Long-span Alternative	Couch Extension	Additional with Temporary Bridge
Institutional						
10	University of Oregon (White Stag Building) 19 NW Naito Pkwy	TCE Access	TCE Access	TCE Access	TCE Access	-
14	BES Pump Station (City of Portland) 30 SW Naito Pkwy	TCE	TCE	TCE	TCE	-
Social Service						
1	Central City Concern (Shoreline Building) 2-12 NW 2nd Ave	-	TCE Access	TCE Access	TCE Access	-
2	Portland Rescue Mission 101-117 W Burnside St	TCE Access (1) 2 to 3-month Temp Business Displacement	TCE Access	TCE Access	TCE Access	-
6	Salvation Army 134 W Burnside St	-	TCE Access	TCE Access	TCE Access	-
Industrial - No additional temporary impacts						
16	Pacific Coast Fruit Company 201 NE 2nd Avenue	TCE	TCE	TCE	-	-
Park/Open Space						
12	Japanese American Plaza (City of Portland) 10 NW Naito Pkwy	TCE	TCE	TCE	TCE	-
13	Ankeny Plaza Structure (City of Portland) 98 SW Naito Pkwy	TCE	TCE	TCE	TCE	-
15	Bill Naito Legacy Fountain (City of Portland) SW Naito Pkwy	-	-	-	-	TCE
Mixed Use						
21	The Yard (Yard Residences LLC) 33 NE 3rd Ave	TCE	TCE	TCE	TCE	-
25	The Slate (Block 75) 321 NE Couch St	-	-	-	TCE Access	-
Multi-Family						
24	Union Arms Apartments 131 NE MLK Jr. Blvd	-	-	-	TCE Access	-

Land Use Type / Map ID	Property Name	Retrofit Alternative	Short-Span Alternative	Long-span Alternative	Couch Extension	Additional with Temporary Bridge
Parking						
22	Nemarnik Family Properties Parking Lot NE 2nd Ave	-	-	-	-	TCE (1) Business Displacement
Right-of-Way						
A	Willamette River (Dept of State Lands)	TCE	TCE	TCE	TCE	-
B	Eastbank Esplanade (City of Portland)	TCE	TCE	TCE	TCE	
C	I-5 & I-84 (ODOT)	TCE	TCE	TCE	TCE	-
D	Union Pacific Railroad	TCE	TCE	TCE	TCE	-
Vacant						
26	Block 76 365 NE Couch St	-	-	-	TCE Access	-
28	5 MLK (Under Construction) 5 SE MLK Jr Blvd	TCE Access	TCE Access	TCE Access	TCE Access	-
Summary (Totals)						
Temporary Construction Easements		10	10	10	9	2
Number of Businesses Displaced		0	0	0	0	1
Temporary Construction Easement Access		4	7	7	11	0
Number of Businesses Displaced		1	0	0	0	0

Notes: Temporary Construction Easement (TCE); Temporary Construction Easement Access Impacts (TCE Access)

Under the Retrofit Alternative the Portland Rescue Mission would require Temporary Relocation for 2 to 3 months during construction due to their primary access being blocked.

Table 6 provides construction impact acreage by land use for each Build Alternative.

Table 6. Land Use Type with Temporary Construction Use by Alternative

Land Use Type	Retrofit Alternative (acres)	Short-Span Alternative (acres)	Long-Span Alternative (acres)	Couch Extension (acres)	Additional with Temporary Bridge (acres)
Commercial	0.16	0.18	0.18	0.07	0
Industrial	0.03	0.06	0.06	0.03	0
Institutional	0.01	0.01	0.01	0.01	0
Mixed Use	0.06	0.05	0.06	0.06	0
Multi-Family	0	0	0	0	0
Park/Open Space	1.26	1.24	1.62	1.24	0.68
Parking	0.00	0.00	0.00	0.00	0.05
Right-of-way	0	0	0	0	0
Social Services	0	0	0	0	0
Vacant	0.28	0.28	0.28	0.28	0

7.4.1 Without Temporary Bridge

The No Temporary Bridge Option would divert traffic during construction by rerouting vehicular, transit, bike and pedestrian users to other river crossings. Traffic detours would increase trip times across the river for all modes of transportation. Access impediments from longer trip times and detours could have adverse impacts on businesses and residents within the Project Area. Suggested pedestrian and bicycle detour routes increase travel times which could discourage these modes of transportation. The No Temporary Bridge Option would reduce the amount of space needed for staging within Waterfront Park as shown in Figure 15 and Table 6.

Figure 15. Property Impacts – West Bridgehead – All Alternatives

Source: City of Portland, Oregon, HDR, Parametrix

Enhanced Seismic Retrofit Alternative

This Alternative would have the shortest estimated construction duration of 3.5 years. It would have 14 temporary construction easements as shown on Figure 15 and Figure 16. Table 6 shows the number of acres affected by construction impacts for each type of land use. Park/open space is most affected by construction with 1.26 acres for the Retrofit Alternative.

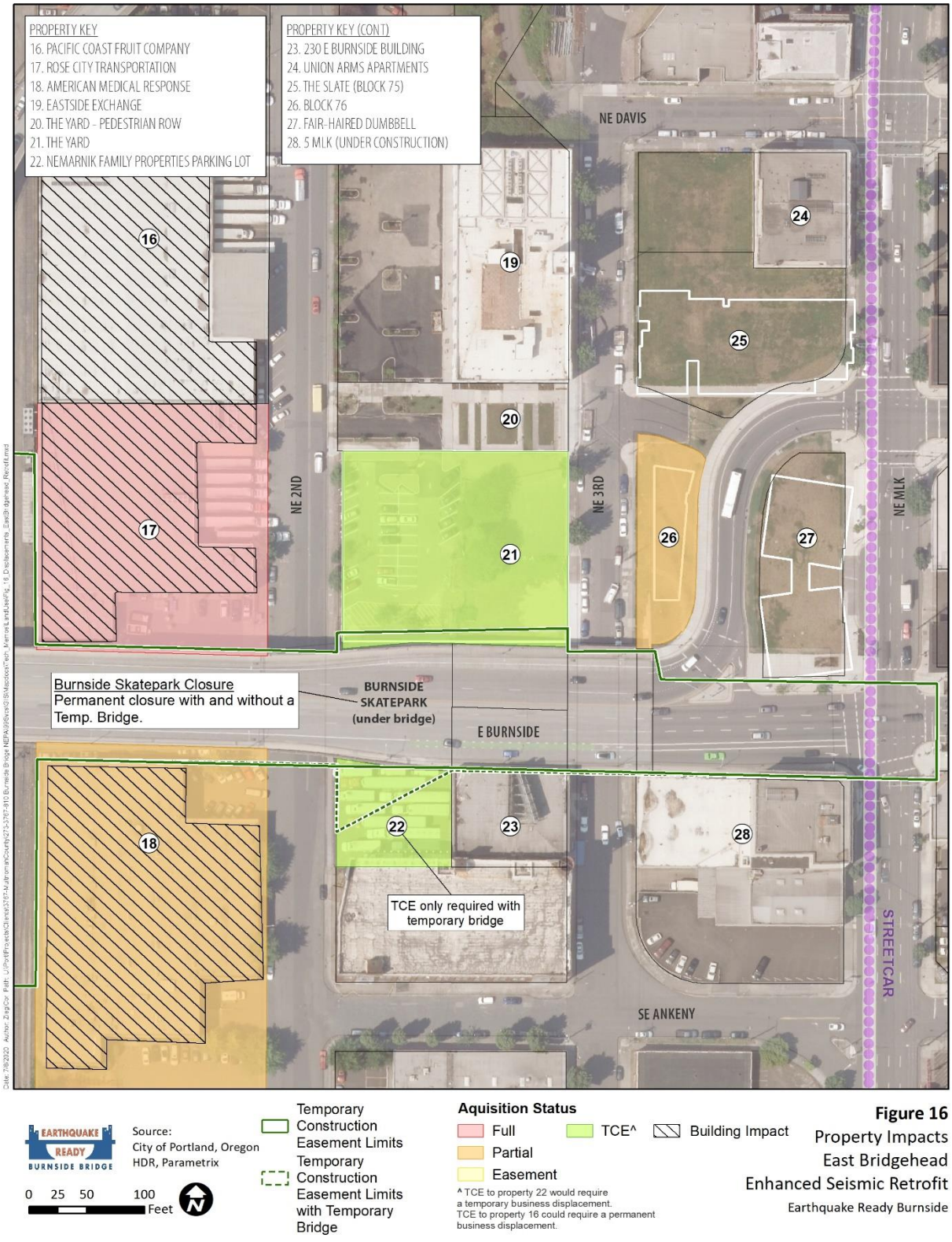
Several staging areas would be used temporarily during construction, disrupting their current land use functions. The areas include Waterfront Park (under the current bridge) north to the Japanese American Historical Plaza (clearing existing trees) and use of the Mercy Corps parking lot.

The buildings on the east approach immediately to the north and south of the bridge (Rose City Transportation and AMR) would be acquired, and adjacent streets, including next to the Yard building, would be used for temporary construction staging and access.

Extensive use of jet grouting for ground improvements (necessary for all Build Alternatives except the Long-span Alternative) could damage or cause settling to the existing surrounding land uses including the Ankeny Pump Station, Eastbank Esplanade, I-84 ramps, Union Pacific Railroad (UPRR), and the Rose City Transportation building.

The EQRB Noise and Vibration Technical Report (Multnomah County 2021h) indicates that some phases of construction would result in relatively high construction noise levels with exceedances of the City of Portland's construction noise limits, but that these could be reduced by implementing mitigation techniques. See the EQRB Noise and Vibration Technical Report (Multnomah County 2021h) for additional information. Dust impacts arising from building and bridge demolition could be mitigated using dust control measures, reducing the adverse effects on surrounding land uses.

Figure 16. Property Impacts – East Bridgehead – Seismic Retrofit



Source: City of Portland, Oregon, HDR, Parametrix

Access

Construction activities would temporarily affect access to several land uses as shown in Figure 17 and Figure 12. Temporary closures would include a portion of the Eastbank Esplanade trail that runs parallel to the river's east bank. Trail users would need to be rerouted around this section of the trail onto streets and sidewalks for up to 26 months. The Portland Saturday Market operating in Waterfront Park would also be temporarily relocated for approximately 3.5 years.[4] Access to the Portland Rescue Mission building and services during construction of the Retrofit Alternative could be temporarily but substantially impacted for a 2- to 3-month period requiring a temporary displacement during that time.[5] All Alternatives would block access to the Burnside Skatepark during construction, but the Retrofit Alternative would result in permanent removal of the skatepark.

Replacement Alternative with Short-Span Approach

The construction impacts for this Alternative would be similar to those for the Retrofit Alternative except that the estimated construction time is longer at 4.5 years. The number of temporary easements is 17 for the Short-span Alternative as shown in Table 5. Figure 15 and Figure 18 show impact locations. This Alternative would have similar land use construction impacts as would the Retrofit Alternative (see Table 6).

Access

Access to the Burnside Skatepark would be temporarily closed for about 4 months during construction, but the facility would not be damaged by construction activities with the Replacement Alternatives. The Eastbank Esplanade would be closed for 30 months with this Alternative. The Portland Saturday Market would be temporarily relocated for a duration of 4.5 years.[3] Unlike the Retrofit Alternative, this Alternative would not block access to or displace the Portland Rescue Mission building and services during construction.[4]

Replacement Alternative with Long-Span Approach

Construction impacts for this Alternative would be similar to those for the Short-span Alternative with 17 temporary construction easements. The Long-span Alternative would minimize the amount of groundwork improvements necessary by only needing improvements for one bent on the east side near the UPRR tracks. This would reduce the amount of ground disturbance and possible damage to surrounding land uses. Table 6 shows land use construction impacts for the Long-span Alternative similar to those of the Short-span Alternative.

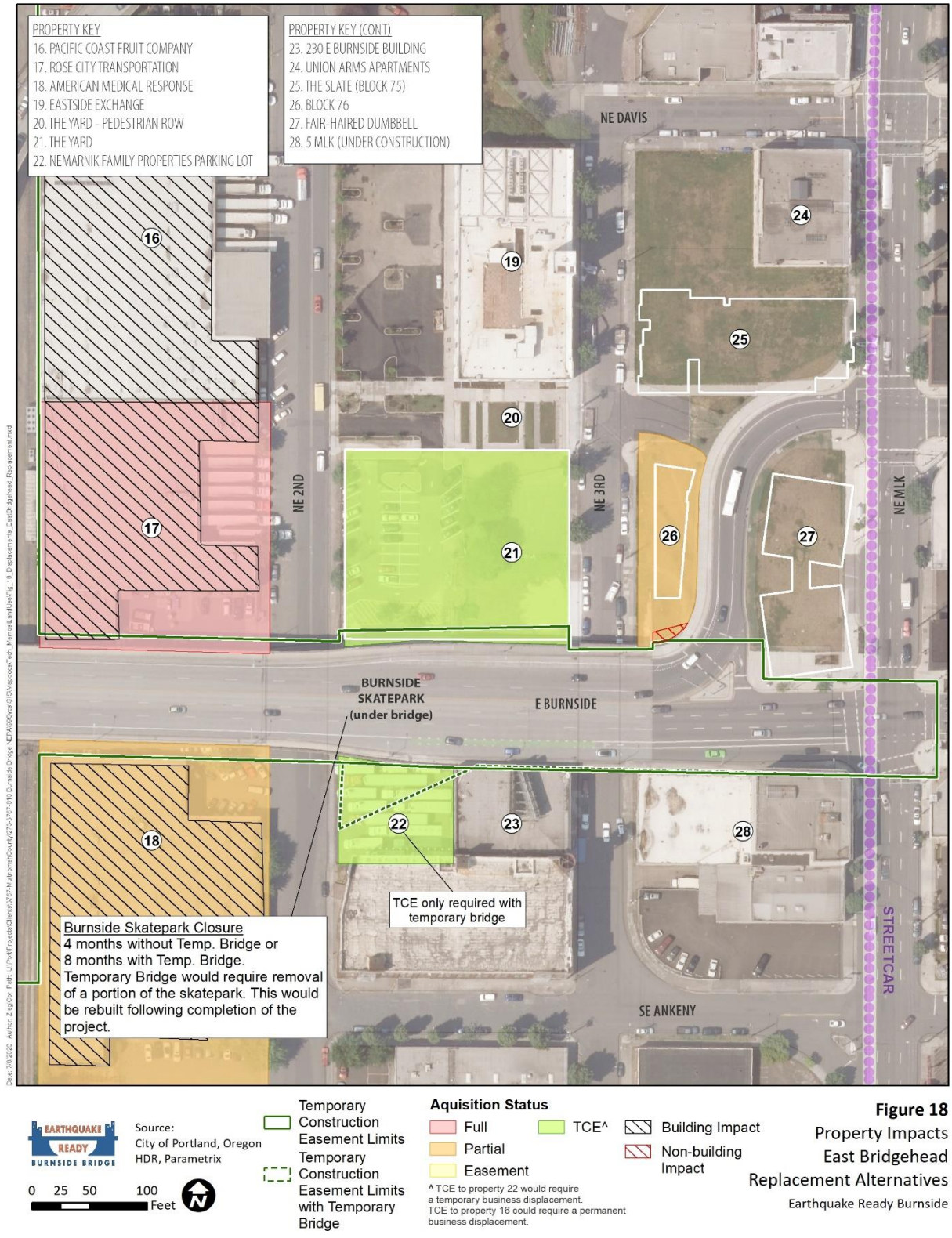
[4] See the EQRB Parks and Recreation Technical Report (Multnomah County 2021i) for more information on recreation impacts and the EQRB Economic Impacts Technical Report (Multnomah County 2021e) for information on the effects from relocating the Portland Saturday Market.

[5] Refer to the EQRB Social/Neighborhood Technical Report (Multnomah County 2021k) for more information.

Figure 17. Access and On-Street Parking Impacts – West Bridgehead

Source: City of Portland, HDR, Parametrix

Figure 18. Property Impacts – East Bridgehead – In-Kind Replacement



Source: City of Portland, HDR, Parametrix

Access

Access disruptions to the Burnside Skatepark and the Portland Saturday Market would be the same as for the Short-span Alternative. Access disruptions to the Eastbank Esplanade would be the shortest with the Long-span Alternative, requiring only 18 months of closure and detours (refer to Figure 12 and Figure 17).

Replacement Alternative with Couch Extension

Construction of the Couch Extension would require 20 temporary easements, the most of any Alternative, as shown in Table 5. Figure 15 and Figure 13 show parcel locations affected by this Alternative. Table 6 shows the amount of land that would be impacted by temporary construction which is similar to the other Build Alternatives.

Access

Access disruptions for this Alternative would be greatest on Couch Street where the westbound approach would be constructed. Accesses to the residential and mixed-use buildings would need to be relocated (refer to Figure 12). Similar to the Short-span Alternative, temporary closures from construction would impact the Burnside Skatepark (4-month closure), Portland Saturday Market (4.5 years), and the Eastbank Esplanade (30 months). Access to the Portland Rescue Mission would be affected at times, but it would be not enough to require closure or relocation.

7.4.2 With Temporary Bridge

The temporary bridge would provide cross-river access during construction of a retrofitted or replaced Burnside Bridge and would add an additional 1.5 to 2 years of construction to the Project duration. The temporary bridge would require two additional temporary construction easements: the Bill Naito Legacy Fountain (owned by the City of Portland) and a parking lot leased to the Pacific Coast Fruit Company (owned by Nemarnik Family Properties). The parking lot is located on the east approach, north of the existing Burnside Bridge and would result in a business displacement (as shown in Table 5). The temporary bridge would also result in 0.73 acres of additional land affected in park/open space land and vacant land (Table 6). The Temporary Bridge Option would still result in substantial traffic diversions since it would only carry up to one traffic lane in each direction (currently the Burnside Bridge consists of two westbound motor vehicle traffic lanes and three eastbound traffic lanes with the outside eastbound lane reserved for transit only). The Temporary Bridge Option would reduce increased traffic travel times caused by construction closures by roughly 2 to 4 minutes for eastbound PM peak-hour traffic and about 2 to 6.5 minutes for westbound AM peak-hour traffic. Refer to the EQRB Transportation Technical Report (Multnomah County 2021l) for additional travel time information. Reduced travel times and a shorter, more direct, access route could decrease the adverse impact to residents, populations relying on social services, and workers commuting to the Project Area. It could also encourage continued visitation to commercial businesses within the Project Area.

Enhanced Retrofit

Temporary construction staging would include the areas listed in Section 7.4.1, Enhanced Retrofit (see Figure 7). The temporary bridge would require temporary full closures of I-5, the I-84 ramps, the Morrison exit, and additional temporary closures of the Eastbank Esplanade (detour routes would be provided) during construction of the temporary bridge on the east side.[6] The construction duration for this Alternative would be 5 years.

The temporary bridge would cause additional construction noise from driving in-water piles which could affect surrounding land uses. The EQRB Noise and Vibration Technical Report (Multnomah County 2021h) indicates that short-term noise and vibration impacts for the Temporary Bridge Option and the No Temporary Bridge Option could be reduced by implementing mitigation measures. The skatepark would be removed and could not be rebuilt in its current location with this Alternative.

Replacement Alternative with Short-Span Approach

Impacts for the Short-span Alternative with a temporary bridge would be similar to those for the Retrofit Alternative. The construction access impact would be longer with this option at 6.5 years. The Burnside Skatepark would experience 8 months of full closure and partial demolition of the southern section of the skatepark due to the temporary bridge, but it would be restored after removal of the temporary bridge.

Replacement Alternative with Long-Span Approach

Impacts for the Long-span Alternative with a temporary bridge would include a Project construction duration of 6.5 years. Similar to the Short-span Alternative with the Temporary Bridge Option, the Burnside Skatepark would be closed for 8 months and the Portland Saturday Market relocated for 6.5 years. The Esplanade would be closed for 22 months.

Replacement Alternative with Couch Extension

This Alternative would include similar impacts as those for the Short-span Alternative with the Temporary Bridge Option. Closure durations include 8 months for the Burnside Skatepark, 6.5 years for the Portland Saturday Market, and 34 months for the Eastbank Esplanade.

7.4.3 Potential Off-Site Staging Areas

The construction contractor could use one or more off-site staging areas outside the Project Area to store and and/or assemble materials that would then be transported by barge to the construction site. Off-site staging could occur with any of the Alternatives. Whether, where, and how to use such sites would be the choice of the contractor, and therefore, the actual site or sites cannot be known at this time. Given this uncertainty, detailed analysis of impacts is not possible at this time. To address this uncertainty, the

[6] For more detail about road closure impacts, see the EQRB Transportation Technical Report (Multnomah County 2021l), and for more detail about impacts to recreation resources, see the EQRB Parks and Recreation Technical Report (Multnomah County 2021i).

Project has identified four possible sites that represent a much broader range of potential sites where off-site staging could occur. While the contractor might choose to use one of these or any other site, it is assumed that because of regulatory and time constraints on the contractor, any site they choose would need to be already developed with road and river access. It is also assumed that the contractor would be responsible for any relevant permitting and/or mitigation that could be required for their chosen use of a site. The Draft EIS identifies the types of impacts that could occur from off-site staging, based on the above assumptions. This analysis is not intended to "clear" any specific site, but rather, to ensure disclosure of the general types of impacts based on the possible sites.

The four representative sites shown in Figure 19 include:

A Willamette Staging Option off Front Avenue

B USACE Portland Terminal 2

C Willamette Staging Option off Interstate Avenue

D Ross Island Sand and Gravel Site

Based on the four representative sites identified, the types of land use impacts that could occur from off-site staging could be similar to the short-term construction-related impacts discussed previously in this report. Potential short-term impacts to land use include potential business displacements; increases in noise levels, vibration, or dust levels; and visual changes which could be inconsistent with existing land uses. Temporary area access difficulties could also arise from off-site staging activities.

If a contractor chooses to use an off-site staging area, the following local, state, and federal regulations could apply:

- Oregon Statewide Planning Goal 15. The Willamette River Greenway is focused on the Willamette River and applies to cities and counties along the river.
- Local district and neighborhood plans, including but not limited to the Central City Plan District and The River Plan.
- Zoning requirements as outlined in Portland Zoning Code, Title 33 and PCC 33.440 (Greenway Overlay Zone).
- City Land Use Reviews.

Figure 19. Potential Off-Site Staging Areas

Source: City of Portland, Oregon, HDR, Parametrix

7.5 Cumulative Effects

The cumulative impacts analysis considers the Project's impacts combined with other past, present, and reasonably foreseeable future actions that would have environmental impacts in the Project vicinity. Based on the list of foreseeable transportation and other development projects that are anticipated to occur in the Project vicinity within the same timeframe, as well as relevant past actions that have defined the Project vicinity, a qualitative analysis of cumulative effects was conducted for land use impacts. The analysis of potential cumulative land use impacts is examined for both near-term construction effects as well as long-term operational impacts. Please refer to the EQRB Cumulative Impacts Approach Memorandum for more information on key past and future actions.

7.5.1 No-Build Alternative

The No-Build Alternative would not have any immediate adverse land use impacts as it would not displace any businesses or create any construction-related impacts such as disruptions to temporary access or changes in noise or views. When a major CSZ earthquake occurs, this Alternative would result in the greatest amount of damage to land uses within the Project vicinity and to the bridge structure itself.

Due to the age and deterioration of the bridge, continual bridge maintenance would be an ongoing issue that could create continual construction/maintenance-related access issues to land uses around the bridge. When considered with other reasonably foreseeable future actions, increased construction delays could discourage use of the area around the bridge, which could have long-term impacts on businesses (see the EQRB Economic Impacts Technical Report (Multnomah County 2021e) for more information). It is unlikely that these short-term changes would result in long-term land use changes or changes in zoning.

7.5.2 Build Alternatives

Land use impacts associated with the Build Alternatives are not anticipated to change the land use patterns within the Project Area.

Current and future development and construction projects in the Project vicinity could have short-term cumulative impacts. If timing of the EQRB Project and future construction projects (for example I-5 Rose Quarter Improvements) coincide, they could have impacts on traffic detours and limit area access even further affecting the area's growth and economic potential (see the EQRB Economic Impacts Technical Report [Multnomah County 2021e]). It is unlikely that these short-term changes would result in long-term land use changes or changes in zoning.

7.6 Compliance with Laws, Regulations, and Standards

7.6.1 Consistency with State and Local Planning Goals

No-Build Alternative

State

The No-Build Alternative does not achieve the goals in Statewide Planning Goal 12 of providing safe and convenient travel for vehicles, transit, and pedestrian users or providing improvements and services necessary to support acknowledged comprehensive plans. This Alternative is consistent with Goal 15 as it does not change the natural, scenic, or historic quality of the Willamette River Greenway. The No-Build Alternative is also consistent with Goal 5: conserving scenic, historic, and open spaces.

Local/Regional

The No-Build Alternative is not consistent with the Central City 2035 recommendation classifying the Burnside Bridge as a major emergency response route. This Alternative conflicts with the City of Portland 2035 Comprehensive Plan's policy of maintaining accessible emergency response streets (Policy 9.40). It does not further the City's TSP goals of promoting active transportation modes or accommodating growth in the area. Bridge failure due to the CSZ earthquake would not be consistent with the Metro Regional Framework Plan of improving the safety of the transportation system and failure would hinder the Metro 2040 Growth Concept's goal of intensive development in the Central City area.

Enhanced Seismic Retrofit Alternative

State

The Retrofit Alternative is consistent with Statewide Planning Goal 12 of providing safe and convenient travel and providing improvements and services necessary to support acknowledged comprehensive plans. The Retrofit Alternative supports Goal 15 by maintaining the original bridge structure with improvements and enhancing access to the Willamette River via the Eastbank Esplanade ADA ramp. This Alternative is consistent with Goal 5 by preserving park resources for the community, including Waterfront Park and the Eastbank Esplanade. Short-term closures of Waterfront Park (a minimum of 3.5 years) and the Eastbank Esplanade (minimum of 26 months) would be in conflict during the time of construction. Removal of the historic Burnside Skatepark and sections of the historic Harbor Wall are inconsistent with Goal 5. This Alternative has the greatest potential for impacts to buried archaeological resources, which is also inconsistent with Goal 5. Jet grouting would be required with this Alternative which could have adverse impacts to buried archaeological resources and surrounding land uses which is inconsistent with Goal 5. The Retrofit Alternative would not remove all of the existing historic Burnside Bridge, although it would modernize, replace, and alter many elements of the bridge in order to achieve a seismically resilient structure making it no longer eligible for listing in the National Register of Historic Places.

Local/Regional

The Retrofit Alternative is consistent with the Central City 2035[7] plan by upgrading the bridge to be a "major emergency response route" that would be usable after a major earthquake, while maintaining some elements of the historic structure which is part of the neighborhood's historic past. Upgrades to the bridge would support improved bike lanes and pedestrian improvements as envisioned in the 2035 plan. The potential redevelopment opportunities from acquired properties would support development goals outlined in the Metro 2040 Growth Concept. This Alternative is consistent with the Metro Regional Transportation Plan's goal of "providing access to any activities crucial to the social or economic health of the greater Portland region…" Should a major earthquake occur, the Burnside Bridge would provide crucial access across the river to support area-wide recovery.

The City of Portland Bureau of Development Services Title 33 Zoning Code contains development standards and approval criteria that would apply to ground-disturbing Retrofit actions. The bridge design would need to be evaluated against all applicable standards and criteria in the applicable zones, as would the redevelopment/restoration of disturbed areas after construction. The typical process could include Type II or Type III land use reviews processed by the Bureau of Development Services and include an opportunity for public comment and potentially review by a hearing officer or other land use decision-making body. Additionally, a Type IV Demolition Review procedure is required for this Project, as the Burnside Bridge is listed in the Historic Resources Inventory. Compliance with these standards would be required prior to issuance of any land use reviews or building permits.

Replacement Alternatives

State

The Replacement Alternatives, similar to the Retrofit Alternative, are also consistent with Statewide Planning Goal 12 by "providing and encouraging a safe, convenient, and economic transportation system." These Alternatives are generally consistent with Goal 15 by providing improved access to the Willamette River. The Long-span Option would reduce a pier within Waterfront Park providing more space for park users along the riverfront. These Alternatives are not consistent with preserving the historic Burnside Bridge as they would completely replace the existing structure. The Replacement Alternatives are consistent with Goal 5 by maintaining open spaces including Waterfront Park, the Eastbank Esplanade, and the Burnside Skatepark (a National Register of Historic Places–eligible resource). The Long-span Alternative would be consistent by providing more open space within Waterfront Park and requiring less fill in the Willamette River which would reduce impacts to natural resources. The Long-span Alternative would have the shortest construction closure duration for the Eastbank Esplanade of 18 months. The Couch Extension would be inconsistent by changing an existing bike/pedestrian path and open space area to an elevated roadway for vehicular use.

[7] The Central City 2035 Plan was appealed and was remanded by the Oregon Court of Appeals on March 16, 2020. The plan was readopted on July 8, 2020, and it went into effect on August 10, 2020.

Scenic views would be changed by the Long-span Alternative and the Couch Extension Alternative. The Short-span Alternative and Couch Extension Alternative would require the use of jet grouting which would be inconsistent with Goal 5 due to potential adverse impacts to buried archaeological resources and surrounding land uses. The Replacement Alternatives would also replace the existing historic bridge.

Local/Regional

The Replacement Alternatives are consistent with the 2035 Comprehensive Plan of providing transportation development improvements which promote active transportation modes and accommodate Central City area growth. The Replacement Alternatives are also consistent with the Central City 2035 Plan goal of making the Burnside Bridge a major emergency response route and providing enhanced pedestrian access to the riverfront through an Eastbank Esplanade ADA ramp. Redevelopment opportunities from acquisitions would support the land use goals identified in the Central City 2035 Plan and the Metro 2040 Growth Concept of intensive development. The Replacement Alternatives would also support the goal of designating Burnside Street as a Main Street. Similar to the Retrofit Alternative, the Replacement Alternatives would support the goal of providing access to crucial activities as outlined in the Metro Regional Transportation Plan.

The City of Portland Bureau of Development Services Title 33 Zoning Code contains development standards and approval criteria that would apply to ground-disturbing replacement actions. The bridge design would need to be evaluated against all applicable standards and criteria in the applicable zones, as would the redevelopment/restoration of disturbed areas after construction. The typical process could include Type II or Type III land use reviews processed by the Bureau of Development Services and could include an opportunity for public comment and potentially review by a hearing officer or other land use decision-making body. Additionally, a Type IV Demolition Review procedure is required for the Project as the Burnside Bridge is listed in the Historic Resources Inventory. Compliance with these standards would be required prior to issuance of any land use reviews or building permits.

7.7 Conclusion

Local comprehensive plans identify the need for a safe transportation route that supports a growing region. While there would be land use impacts from any of the Build Alternatives, the long-term land use and other benefits from a seismically resilient Burnside Bridge outweigh the anticipated impacts.

8 Mitigation Measures

While all of the Build Alternatives consist of changes to existing land uses, compensation and relocation assistance described in the EQRB Acquisitions and Displacements Technical Report (Multnomah County 2021a) would mitigate the effects on affected property owners and tenants. The changes to the vacant property inventory and traffic patterns would be minimal. Displaced land uses could be mitigated by using parcels that

are either vacant or significantly underutilized. In the entire API, there are 16 lots identified as potential sites for new development or redevelopment to a more intensive use. Of these lots, 3 are currently used for parking, 2 are vacant, 1 is right-of-way, and 10 are used for office, retail, or combination of the two. Please refer to individual technical reports for additional mitigation measures for specific land uses including (but not limited to) Parks and Recreation (Multnomah County 2021i), Economic Impacts (Multnomah County 2021e), Social/Neighborhood (Multnomah County 2021k), Environmental Justice (Multnomah County 2021f), and Transportation (Multnomah County 2021l). Temporary impacts during construction could be mitigated as discussed in the EQRB Noise and Vibration Technical Report (Multnomah County 2021h). Dust impacts arising from possible building and bridge demolition could be mitigated using dust control measures.

Compliance with local land use plans and design guidelines and standards would provide additional mitigation. As described in Section 4.2, Design Standards, development standards preserve the heritage and character of the area and mitigation requirements for work within the Greenway Overlay Zones to protect river resources. In accordance with the Central City Scenic Resources Protection Plan and Central City Fundamental Design Guidelines, public viewpoints would be provided for river viewing (PCC 33.475.240). See Table 7 for a list of potential mitigation measures.

Table 7. Potential Mitigation Measures

Topic	Description/Impact to Resource	Potential Mitigation Measure
Property	Temporarily displaced land uses	• Compensation and relocation assistance for temporarily displaced land uses
Property	Acquisitions and displacements	• Identify potential relocation sites for displaced businesses • Coordination with Multnomah County and the City of Portland to identify potential relocation sites for businesses • Identify potential opportunities to reduce property impacts during design • Acquisitions and relocations would be conducted in accordance to the Uniform Relocation and Real Property Acquisition Policy Act of 1970
Property	Design and construction impacts to land uses and their functions	• Comply with local and state land use plans and design guidelines • Comply with Greenway Overlay Zone design guidelines for river resource protection • Comply with local land use permitting (Greenway Overlay Zone) to evaluate impacts of the new Eastbank Esplanade connection
Property/Parking/ Access	Multiple impacts to parking and vehicular ingress and egress including the Saturday Market building, Mercy Corps, etc.	• Identify potential opportunities to reduce property impacts during design • Prepare a schedule and plan to communicate temporary access closures

Topic	Description/Impact to Resource	Potential Mitigation Measure
Property Access	Difficult access to social services	• Identify opportunities to avoid or reduce access impacts through design and construction refinements • Conduct ongoing coordination with social service providers throughout Project duration • Provide signage and advanced information about access and transit modifications
Transportation	Temporary impacts from traffic diversions, delays, and transit routes	• Increase public awareness about the Project construction schedule • Provide transparent signage for detour routes and closures • Identify the construction approach and measures that could reduce the duration of closures • Coordinate with TriMet on affected bus routes • Coordinate with City of Portland and Metro to develop traffic management plan
Active Transportation	Disruptions to public spaces commonly used for physical activity	• Establish and publicize safe alternate and detour routes for recreation • Maintain bike and pedestrian connections where feasible • Provide permanent enhancements to bike and pedestrian routes impacted by construction
Noise/Vibration/ Dust	Impacts from air, dust, and sound pollution	• Coordination with staff and residents, both homeless and others, to understand potential impacts • Adopt dust control measures and noise monitoring during construction • Consider providing indoor respite space especially during summer and air filters for buildings • Comply with state and local noise level rules
Planting	Removal and damage to landscaping and trees	• Protect and maintain street and park trees where feasible • Prepare and adopt a mitigation planting plan and schedule in coordination with City of Portland

9 Contacts and Coordination

The Project includes an extensive public involvement and agency coordination effort, including local jurisdictions and neighborhoods within the Project Area. Potential contacts for land use public involvement and agency coordination include the following:

- City of Portland Bureau of Development Services
- City of Portland Bureau of Planning and Sustainability
- City of Portland Parks & Recreation
- Neighborhood Associations
    - Old Town/Chinatown Community Association
    - Central Eastside Industrial Council
    - Pearl District
    - Portland Downtown
    - Kerns
    - Buckman

10 Preparers

Name	Professional Affiliation	Education	Years of Experience
Jen Hughes	Parametrix	Environmental Planner	20
Sabrina Robinson	Parametrix	Planner	3

11 References

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2001. Central City Fundamental Design Guidelines. https://beta.portland.gov/sites/default/files/2019-07/central_city_plan_fundamental_dg_2001.pdf

2018. Central City 2035 Plan. https://www.portlandoregon.gov/bps/77289

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Multnomah County.

2021a. EQRB Acquisitions and Displacements Technical Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.

2021b. EQRB Cultural Resources Technical Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.

2021c. EQRB Description of Alternatives Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.

2021d. EQRB Draft Section 4(f) Analysis. Attachment M to the EQRB Draft Environmental Impact Statement. https://multco.us/earthquake-ready-burnside-bridge/project-library.

2021e. EQRB Economic Impacts Technical Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.

2021f. EQRB Environmental Justice Technical Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.

2021g. EQRB Hydraulics Technical Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.

2021h. EQRB Noise and Vibration Technical Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.

2021i. EQRB Parks and Recreation Technical Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.

2021j. EQRB Public Services Technical Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.

2021k. EQRB Social/Neighborhood Technical Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.

2021l. EQRB Transportation Technical Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.

2021m. EQRB Vegetation, Wildlife, and Aquatic Species Technical Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.

2021n. EQRB Visual Resources Technical Report. https://multco.us/earthquake-ready-burnside-bridge/project-library.